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COMMUNICATIONS.

Artificial Divisions of the Farm.

FENCES in rural economy comprehend in general, every sort of enclosure that is employed for shelter—or designed for the protection of the lands thus enclosed, from the intrusion of cattle. They are of different kinds, depending on the various circumstances of soil, situation, the kinds of materials at hand most suitable for the purpose, and the convenience with which they may be obtained. Where a country is entirely in tillage, it is of less importance that farms be divided by artificial barriers; but wherever live stock is kept, this is essential to the proper keeping of the animals, and to the profitable occupation of the grounds; and besides the purpose of retaining and separating animals of different kinds from one another.* Every person about to erect a fence should have special regard to three essential points,—durability, economy, and neatness of appearance.

"Poor fences are of incalculable mischief to the farmer." They are frequently the means of disturbing that good neighborhood, which would, in many places, otherwise exist without interruption, if each farmer would attend to having his fences well and substantially made, and kept constantly in good order and repair. Unless fences are made sufficiently high and strong, there can be no safety to the crops—the cattle, selecting the weakest points are apt to break over them, and thereby imbibe vicious habits.

The descriptions of fences and the method of their construction, depend wholly upon the soil, the various kinds of materials at hand or most readily obtained. There are a variety of kinds of fences or enclosures used; the log fence, the post and rail, the worm or zig-zag, and the stone—which, when the materials are on the ground, and the fence is properly built, is by all means the most durable, economical, and secure,—the ditch, the paling, and the live hedge. But in whatever manner, and of whatever materials they may be constructed, they should be frequently surveyed with a critical eye, and all defects rectified without the least delay.

The growing and alarming scarcity of timber in the United States, renders the enclosure of farms a very expensive item. It therefore is the interest of the farmer to preserve his fences, now in good condition, as long as possible in that state—and, in the construction of new ones to exercise economy, by having them erected, of whatever materials, in a most substantial and durable manner. The saving of a few dollars in the outlay, is only apparent, not real. We must not be understood as advocating extravagance in this or any other department of rural affairs—but we do maintain that what is worth doing at all, is worth doing well, and that, therefore, in the erection of fences, the best and most durable materials should be selected; and the whole put together in a solid, substantial, and workmanlike manner.

Almost every individual has an idea that he fully understands the process of *making*

* Low's Elements.

rail-fence, which is a simple process, and yet, perhaps, not more than one in twenty has any established system or fixed rules, by which their operations are to be controlled in this essential and important department of farm-labor. A writer in the Genesee Farmer, says that no sight is to him more pleasing, than a well made rail-fence. His system of construction is briefly as follows:

"To ascertain when a sufficient number of rails have been drawn for a given distance of fence. 1.—If the fence is to be seven rails high, and twelve feet long, place them in piles of ten each, in a continuous line, touching each other. 2.—Place, in range, stakes or poles at intervals to designate the line—prepare a pole seven or eight feet long, well sharpened at one end; (the end ought by all means to be pointed with iron.) At about eighteen inches from the pointed end, fasten a rod at right angles with the pole, and extending thence from three feet, two, four, or six inches, according as the fence is exposed to winds. Put down this pole in a range with the poles designating the line, and the end of the rod will show the place for the corner.—Place then, for a foundation, a good sized flat stone, and you are ready to commence operations. 3.—The bottom rail should be straight—place the largest end forward on the stone, and the other end crossing the preceding rail at the end of the rod of the ranging pole, so that the corners on each side be in exact line. 4.—Let the five following rails be placed the smallest end forward, and notched, if necessary, to make them lie steadily. 5.—Let the top rail be heavy and well notched, the largest end placed forward, which completes the work, leaving your fence level, and of equal height throughout."

Various substitutes have been proposed for the common post and rail fence, the most prominent of which will be hereafter noticed. Notwithstanding the great scarcity of timber in the Atlantic states, which is a matter of great solicitude, in view of obtaining in future a supply of timber suitable for fencing alone—the system of post and rail fences—with proper management on the part of farmers may be easily and advantageously perpetuated.

James Worth, Esq., of Sharon, near Newton, Bucks county, Pennsylvania—a gentleman who has devoted much of his time, talents, and fortune, in promoting the general interests of agriculture—after a minute and careful examination of the claims of all the varieties of fences used and recommended throughout the country, came to the conclusion that the post and rail, and the stone fence, (wherever the materials for its construction abound) was best adapted to the country and the interests of the farmer.—Having determined in favor of the post with five rails, for general purposes, he says:—

"I turn my attention to that particular kind, and will proceed to provide for its future supply. Plant an acre of ground with chestnut and locust seeds, five-sixths of it with chestnut for rails, and one-sixth with locust for posts. Four trees will grow on a perch, making six hundred and forty on the acre. I suppose that forty of them will fail, leaving six hundred trees, each of which will produce in thirty years, and every twenty to twenty-five years afterwards, twenty rails or posts, which will yield at each cutting twelve thousand posts and rails, or two thousand pannels. Then say the acre of land is worth eighty dollars, it will reduce the materials to four cents per pannel, which with making and putting up will not exceed twenty-five cents. In point of durability I am persuaded that it will be exceeded by none, except the stone, and it will have an advantage over that, by being moveable when necessary."

Mr. Worth's reasons for preferring the locust post and chestnut rails are thus stated. It occupies less ground than any other—the borders of the fields are easily kept clean—the great durability of the materials—the ease with which they may be obtained by every farmer, as the trees flourish in a tolerably good soil in every part of our country.—One acre thus appropriated is sufficient for a farm of five hundred acres—and consequently, a quarter of an acre will be abundant for a farm of one hundred acres. To what better or more profitable purpose can so small a portion of the best land on the farm be appropriated? The only objection is, that there is no immediate availability—that from twenty-five to thirty years must elapse before the trees can be made into rails. This objection is as unsatisfactory as it is unsound. There are thousands who, if they were *now* to appropriate sufficient ground, according to the size of their farms, and plant it as proposed, may with the blessing of Providence, live to enjoy its advantages for years. What! not plant an orchard, or a grove of locust, or a cluster of maple, because we may not live to enjoy the benefits thereof! Such sentiments should never find an abiding place in the bosom of an American farmer; for every intelligent man knows full well, that every measure of this kind tends not merely to adorn and beautify his plantation, but also greatly to increase its prospective value. Every farmer should see without delay to having his grounds suitably stocked with trees.

It is estimated that a fence of locust posts and chestnut rails, with very little repair, will last for at least sixty years, so that the necessities of the farm would require only the third cutting of the timber—the two intermediate

cuttings, yielding thirty thousand posts and rails, are ready for a market, which would be readily found, and which at the low rate of five dollars a hundred, would give the owner of the farm an average gain of twenty dollars, for each and every year the acre of land was thus appropriated—in addition to furnishing all necessary fencing for the farm. This, dating from the commencement, is a handsome profit.

Cedar post and rail fence.—James Garnett, Esq., a name familiar to the reading farmer, says: "I can affirm, from my own experience, that a cedar post and rail fence, without any ditch, the materials for which, grow spontaneously over a large portion of Virginia, and will grow by planting almost any where in the United States, will last, without the slightest repair, from thirteen to fourteen years; and may be made to last six or eight years longer, by a few occasional supplies of rails and posts. I also know from my own experience, that either cedar, chestnut, or locust, the last of which is more durable than either, will in fourteen years grow sufficiently large to make the fence anew, if planted by the side of it one or two to each pannel."—*Mr. Garnett's Address before the Fredericksburg, Va., Agricultural Society.*

A great diversity of opinion has prevailed among many persons, as to the *best time for cutting timber*, so as to insure its greatest durability. Some recommend the summer season, some the fall, others the winter when the sap has generally descended; while others again who have entered into a careful investigation of the subject, have come to the conclusion that the most suitable period for felling timber, is in the spring while the sap flows freely. This will no doubt be considered as rank heresy by many of those who cannot regard with complacency, what they deem innovations on the old and favorite systems. But this opinion is gaining ground; from the simple circumstance that it is well sustained by incontrovertible facts.

An old and observing friend, Capt. Cooper, of the Navy, furnished for publication some time since in an agricultural work, a variety of facts, touching this important matter; from which it clearly appears, that spring, that is, while the sap is flowing freely, is the best time for cutting timber.* The late Joseph Cooper, Esq., warmly advocated this system. In the same paper, page 4, is a communication recommending the month of August, within one day of the time when the moon is full, as the best period for cutting all kinds of *oak*. But it is urged, in order to *guard* it from decay, to immerse the wood, immediately after it is cut and split to the dimensions required, in lime and water, in which it is to remain a year, affording time for the particles of lime to penetrate the pores of the wood. This lime water is to be frequently agitated. This process requires a vat, which may be sunk in the ground at little expense. The water and lime should be of the consistence of white wash. If the durability of the timber is promoted by this process, it is evidently owing to the antiseptic quality of the lime-water, with which it is saturated, and *not* to the mere circumstance of cutting the timber in the month of August.

The editor of the Genesee Farmer, and a host of his correspondents recommend cutting timber in the winter, as its durability depends upon its being cut when free from sap. Joshua Howard says, that from twenty years experience in the preservation of timber, the best time to cut it to insure durability, is when the tree is in its greatest vigor—which, in the latitude of his residence, Dearbornsville, N. Y., is about the middle of June. He cites a case in which a man was convinced against his will. A farmer in North Carolina wishing to fence a certain lot, went to work according to the old theory, and cut his rail timber during the full of the moon in February. When he came in May to put up his fence he was deficient about forty pannels—he went into the woods, cut the requisite quantity, and put it up as the only alternative. Ten or twelve years afterward on examining his fence, he was exceedingly surprised to find that the rails cut and split in May were infinitely more sound than those cut and prepared in February. There are thousands of similar cases.

A great variety of plans have been proposed for the preservation of timber. The late Samuel Preston, of Stockport, Pa., was satisfied from experience, that posts set with the top part in the ground will last from three to four times as long as when they are set with the butt-end down. Daniel Longstreth says, that penstocks and other timbers exposed to wet or dampness near the water wheel, are placed by many mill-wrights with the top end downwards, as they are found to be more durable than when placed in a different position. *Charring posts* has been strongly recommended and extensively practised, with-

* Farmers' Cabinet, vol. iii. p. 29.—One fact we give. "J. C. (Joseph Cooper, Esq.) informed me that a detachment of British troops crossed from Philadelphia on the 1st day of May, in 1777, and on the 2d commenced cutting down his woods for the supply of the army, and at the same time to burn up his fencing, which they completely accomplished. "But," said he, "they taught me the proper time to cut timber to make it last. After they marched off, I found many trees that were not cut into cord wood; those I split into rails, believing at the same time they would soon decay, from their being cut in the spring—but I have been agreeably disappointed,—most of them are as sound now as when made into fence." This he related five-and-twenty or thirty years after the peace of '83.

out, however, answering fully the expectation of its advocates. *Wood tar* has been recommended as a preservative of timber. A correspondent of the Farmers' (Va.) Register, cites several very interesting cases, which go to prove that posts cut, and put in the ground *green*, will remain perfectly sound many years after well seasoned posts, in the same line of fence, in the same soil, and put in at the same time, have entirely decayed. We need, however, further experiments on all these points.

[We omit the account given by our correspondent of the manner of constructing stone fences, that subject having been noticed at length in the second and third volumes of the Farmers' Cabinet. We agree with the writer as to the great value of this kind of fence, and recommend it in preference to any other, wherever the materials for its construction abound, or may be readily obtained. But whoever builds a stone fence—to derive benefit from it—must have it built well and substantial—the foundation sunk below the reach of frost, and the whole well and compactly laid together—well capped with good stone pillars at the several openings for bars or gates; the latter we recommend.]

—

LIVE FENCES OR HEDGES.

For many years past, great efforts have been made to introduce live hedges or fences, in place of those of timber and stone. Partial success, has in some instances, for a while, flattered the hopes of the persevering experimenter—but in general, the efforts have resulted in failure. The introduction of the English Thorn, has long been a favorite object with many gentlemen,* and we cannot conceive why, with proper management, it would not attain the same degree of perfection and usefulness in the southern states as in England. It is not adapted to our upland regions. In the choice of plants for a hedge, the influence of soil and climate should be particularly considered, as upon these, and right management, more than any thing else, will depend the success or failure. We should, therefore, rely more upon *native* than *foreign* plants.

That we have a variety of plants, in almost every section of our country, well adapted to all the purposes of hedging, no doubt can be entertained. Years ago,—when a few individuals, bursting the shackles of prejudice,—set themselves earnestly to work, to improve and advance the agriculture of the country generally—this was one of the first subjects that claimed their attention. Numerous experiments were made in Pennsylvania, Delaware, Maryland, and more especially in Virginia. Fences of native, as well as of foreign plants, were set out—and so far as I have been able to gain information, the advantage, as regards durability and use, was in favor of the native plant, portions of which are now standing.

The question which will naturally arise in the mind of the reader, taking the statement to be correct, will be, "why is it that these fences do not abound over the whole country—I never saw one?" The answer is simple—it is to be found in the character and spirit of our countrymen. Almost every thing of importance that has been accomplished in this great country, has been on the "high-pressure principle." The early advocates of agricultural improvement, among whom we find a Washington, a Jefferson, a Peters, a Livingston, a Pickering, a Lincoln, a Taylor, a Garnett, a Cooper, a Bordley, a Lorrain, a Worth, and many other illustrious men, were not sustained by the great mass of the people—for whose benefit, and not their own—they labored. In this case, those farmers we presume, who were induced, or perhaps, *persuaded* by its friends to turn their attention to this subject, did not expect too *great*, but too IMMEDIATE RESULTS. This is the rock on which thousands fail. Lacking persevering patience, they become lukewarm in an enterprise—lose their interest, after which total neglect, if not absolute disgust, ensues.

Among the variety of *native plants, the Red Cedar* was the most conspicuous, as it was probably the most valuable. The late Col. John Taylor, of Caroline, Virginia, recommended it as answering every desirable purpose. With proper care and attention, a hedge of great beauty, strength and durability, may be formed of the cedar in about seven years from the period of planting.

"For the purpose of raising a *nursery of cedar plants*, let the berries be gathered in November and December, and having detached the resinous substance in which the seeds are enveloped, as far as practicable, which may be done by rubbing—mix them with unslacked ashes, in which let them remain two weeks—then plant them in drills after the manner of planting peas, and if good, they will vegetate and come up the following spring. With good nursing, they will be fit for removal into a hedge in two years. The trenches in which they are to be placed, should be prepared with light, rich earth. The first of March is the proper time for planting them. When the plants have attained the height of three feet, the trimming should commence; the best time for which is the middle of summer. The more thoroughly the seeds are cleansed, and the earlier the

* Mr. Garnett is still opposed, as he ever has been, to the introduction of live hedges. His zeal in the cause of agriculture has increased with years. His efforts indicate all the vigor of youth.

plants are set out in the spring the better."—*Farmer's Guide.*

"*Col. Taylor's method of planting the Cedar Hedge.*—From December to the middle of March, the smallest plants are to be taken up in a sod of a square, conformable to the size of the spade used, as deep as possible, which sod is to be deposited unbroken in a hole as deep, made by a similar spade, the earth being used to fill up the crevices between the sod and the hole for its reception. I plant these cedars on the out and inside of a straight fence, on the ridge of a ditch, the plants in each row being two feet apart, both in the direction of and across this ridge, but so that the plants on one side of the fence will be opposite to the centre of the vacancies between those on the other. They should be topped at a foot high, and not suffered to gain more than four inches yearly in height, such boughs or branches excepted, as can be worked into the fence at the ground. Of these great use may be made in thickening the hedge, by bending them to the ground and covering them well with earth in the middle, leaving them growing to the stem and their extremities exposed—thus they invariably take root, and fill up gaps. If properly cultivated, and the land is strong, they will form an elegant live ever-green fence, in a shorter time than is necessary to raise a thorn fence in England by the book.—*Taylor's Arator, third ed. page* 174. Several years after the above was written and published, Mr. Taylor says, in a note on the subject—'My experiments in cedar-hedging have become two or three years older, and have removed every doubt of its cheapness, practicability and importance.'"

When speaking of *live-hedge, the English thorn, hawthorn*, or as it is sometimes called *quick*, is generally understood. We have already adverted to its introduction in this country, and can only refer in brief terms to its management. A *proper choice of plants* is of vast importance. The hawthorn is readily produced from the seeds of its fruits; is best raised in the nursery, and in two years transplanted from the seed bed, in the line of the fence. *The preparation of the soil* is a point of the first importance; as it will constitute in many cases the difference between success and failure. The ground on the line of the fence should undergo a complete preparation by deep and effectual ploughing, or trenching with the spade, and by a thorough manuring. Where a quantity of vegetable matter is present in the soil, lime may be used—but where the soil is poor, both lime and dung should be applied.

"The line of fence being determined, it is laid off by means of poles, like the ridges of a field, and marked upon the ground. The line of the side of the ditch along which the thorns are to be set being marked out by the rod and line, and notched by the spade, the workman takes off a part of the earth from the surface of the intended ditch and lays it along the future line of thorn, about six inches back of the notched line. This forms what is called a scarcement. He then beats down the earth or rods thus laid with his spade, so that the outer surface shall be in the line of the future mound, sloping a little backward. It is upon the row of earth or rods thus placed, technically called the thorn-bed, that the thorns to be planted are laid. A further portion of the surface of the ditch is then stripped off and thrown behind the thorn-bed. The plants, the stems of which are generally eight inches high, exclusive of the root, are to be placed firmly upon the thorn-bed, so that, when the mound is made, they may project a very little beyond the surface, or rather just reach it. The distance at which they may be planted from one another is about eight inches, while one or more persons are engaged in laying the thorns, another is to shovel up from the ditch the loose mould immediately next the surface, and place it upon the stems of the plants. This earth being compressed by the foot, the plants will be firmly fixed in their position. The ditch is cleared out to its full depth, and the earth thrown upon the bank. The mound is then to be rounded at the top, and beat all around by the shovel; and this process completes the formation of the hedge and ditch. The ditch should be narrowed to a spade's breadth at bottom, and so laid out as to permit the regular descent of water. The sides may be made to slope at an angle of 45°. The proper time for planting is from October to the beginning of March, or while vegetation is inert."—*Professor Low's Elements.*

In the *after-culture of the hedge*, which must be rigidly attended to, for the first four or five years especially, the application of new and rich earth to the roots, thorough weeding and loosing the earth of the mound, which is apt to become baked and hard, must not be overlooked—neglect in this case would prove fatal. Obstructions should also, whenever they present themselves, be immediately removed, so that the passage of water may not be interrupted. The value and beauty of the hedge, depends in a great degree upon the management of it while in its young and tender state. The greatest possible care and judgment is to be exercised in pruning.—Loudon says, that from the first year of planting, till the hedge has risen to five or six feet in height, the main stems ought to be left untouched, and the pruning confined solely to the side branches, leaving those next the root pretty long, and gradually tapering towards the top.

We have now described the elementary species of the live or hedge fence, which is the base or foundation of all the others. There are also *compound fences*, the principal and most efficient of which is the stone wall and live fence combined. But as it is not likely to be of much practical service, the description is omitted, as well as the description of palings and ornamental fences.

J. M.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

PART I.

Supposed Conversation between a Provident and Improvident Farmer, and their respective crops and stocks, &c.

Frank.—Father, which is the most profitable breed of sheep for the farmer? I should suppose the largest, as a sheep is a sheep you know, and a large one is of more value than a small one.

Father.—A prudent man will advise with his land on that subject.

Frank.—But can his land advise with *him?*

Father.—Yes, and the lessons which a farmer is taught by his land, are not soon forgotten, as, according to the old adage, "*bought wit is best.*" I sometimes fancy that my crops converse with me, when I visit them of an evening, and if I could do justice to those fancied dialogues which I seem to hear, and could commit them to paper, they would, I think, make a pleasant addition to your book.

Frank.—O, do try, "*nothing is impossible to a willing mind,*" you know.

Father.—Most opportunely quoted the *text*—now for the SERMON.

We will suppose then, that a slovenly *procrastinator* is visiting his fields on just such a glorious evening as the present, in just such a fruitful season as we are now blest with.—He goes up to the field, No. 1, which is wheat, and begins—

Grabb.—Good evening; fine weather this: but I don't think you look quite so well as you did the last time I visited you.

Wheat.—I wonder how I should—do you not see how I am choked with weeds? how the thistles are goading me with their spikes, and the rag weeds are taking the food out of my mouth, while the bind weeds are dragging me down to the earth; and how that I am smothered with evils innumerable!

Grabb.—But I allowed you a fallow and plenty of manure; you ought at least to have been able to cope with the weeds.

Wheat.—You forget that "the earth is own mother to the weeds, while she is only mother-in-law to the crops that are planted in her bosom:" besides, you talk of a fallow—why this great thistle on my right, and which has one of his spikes fixed in my side, has just informed me that he is one of the progeny which was reared in this same fallow of yours,—his parent being the identical thistle under which the farmer sat on horseback and escaped a drenching, while his neighbors were wet to the skin! You seem to have forgotten that "*one year's seeding is seven years' weeding.*"

Grabb.—Ah well! I'll get these weeds pulled.

Wheat.—As you said a month ago, and will say again, and never do it!

Frank.—Excellent! But you never fallow or dung for wheat.

Father.—Nor have I ever such fine thistles. I always dung for green crops, and insure two things at the same time—more food for the cattle, and of course, larger dunghills. My object is, to retard the growth of the wheat, that it might be strong in the stalk, and I therefore do not encourage its lavish growth by manure and fallow. Now for No. 2

2. Corn. *Grabb.*—Why you look very sickly; I thought you would do better, judging from the appearance you put on at first coming up—how's this?

Corn.—Ask yourself! You thought you were cheating me, when you sowed without manure—a favor you always promised me; I relied upon that promise and came up, with the expectation that I should find it when I needed it; but after sending my roots below in search for it, I find your promises are false—you complain of my sickly look! I can only say, if you had no more to feed upon than I have, you would not have shelled the three lower buttons on your waistcoat! Grabb tucked the shucks into the holes, and walked on.

Frank.—I now find that crops can advise, and admonish too: but could not the farmer still do something in the way of top dressing to remedy a part of the evil?

Father.—Yes; but he had no manure.

3. Barley. *Grabb.*—Ah! you'll come to nothing.

Barley.—I thank you, and return the compliment. But what did you expect when you sowed me after once ploughing, on a stiff and wet soil? "Nothing venture, nothing have." I only wish that *you* had to work so hard as I have for a living. You would then feel for *me.*

4. Oats. *Grabb.*—Well, I think you might do a little better than you do, if you would try; why, I shall not get the value of the seed back—that's too bad!

Oats.—Now, that's thrice bad of you!—You know that you have had six grain crops in succession from the land on which I am sown, with not a spadeful of manure of any kind for the last six years? Why, even the weeds have been starved out, and you have

put in practice the lazy farmer's recipe for ridding his land of weeds—"make it so poor that they will not grow!" Now that's practical farming without theory.

Grabb.—But what shall I do for want of the straw which I depended upon as fodder for the cattle during next winter!

Oats.—Is that all your dependence for the next winter? Why your cattle will be ready to eat *you!* and you will have to practise the other part of the recipe, "to prevent cattle from dying of starvation—kill them." But I give you warning; neither they or you must expect any thing from me; if I can hold my own, 'twill be as much as I shall do.

No. 5. Clover. *Grabb.*—Why you look healthy and well, but how is it that you have made so little progress in height? There's Farmer Sykes' clover as high as my knees, and will be soon fit for the scythe! but I am unfortunate in every thing!

Clover.—That's a true word, although it is not spoken in jest. Why you seem to forget that as soon as I had made a little progress in growth, you turned in all your starving cattle, horses and sheep, which not only eat up the branch, but also the root!

Grabb.—Ah! that I was compelled to do to keep them from starving—but you had all the benefit of their manure while they were feeding you.

Clover.—You call that manure! why it was, the greatest part, nothing but worms and bots—and the little good that remained was soon carried off by the grasshoppers and bugs, which were about as much in want of it as I! My fear is, that the hot weather, which seems now to be setting in, will scorch the land, so unprotected by foliage, and dry up the scanty crop which is left, before it is high enough for the scythe—and then, what do you think your horses will say to you? If you had done as Farmer Sykes did, you would have deserved his success; you must remember, how, that instead of feeding off his young crop, he top dressed it with a compost of lime and earth and dung, which had been carefully prepared in the winter, and well pulverized; by which, not only his present crop is doubly benefited, but it is also preparatory to an autumn sowing of wheat on the lay. Now put this and that together, and calculate the result. First, two tons of hay per acre, the first cutting; one ton per acre the second, with a capital aftermath for his dairy; and if wheat is sown by the 29th of September, a yield of forty bushels per acre might be expected at next year's harvest; and this is not all—for after the wheat is carried, the land will be turned, and the clover stubble, perfectly rotted, will form an excellent seed bed for buckwheat, with the expectation of a heavy crop. Now I will leave you to calculate the value of my *second crop*, (remember, you have already had the *first cutting*, and a severe *cutting* it was) and of course you do not expect much at the third; while seventeen bushels of wheat per acre next harvest, will be quite as much as you have any right to expect; and common justice will not allow you to sow buckwheat after.

Grabb.—Why, you are one of Job's comforters!

Clover.—But I cannot see that you have any claim to the character of Job—for "In all this, Job sinned not," remember.

No. 6. Potatoes. *Grabb.*—Well, I don't know how it is, but while others are digging new potatoes, it does not appear that I shall ever have any to dig! I think I may as well leave you to your fate, for you'll certainly never be worth the labor of cleaning.

Potatoes.—Now you cannot be ignorant of the fact, that for two months after the crops of others were up, you were only *talking* of planting your's; and all the while the weeds were growing on, what you called your fallow, until some of them were as high as your head and full of seed; we were then tumbled in all together, and have ever since been striving for the mastery; but you have now sealed our fate, and must take the consequences. 'Twas fortunate for you, was it not! that your father lived before you, *for he would find it difficult to live after you!*

No. 7. The Cows in pasture. *Grabb.*—Well, *you* have more grass than you can eat, however, *you* can't grumble—that's one comfort.

Cows.—*Grass*, do you call it?

Grabb.—Yes I do;—and what do you call it?

Cows.—Why, we were just saying, it would puzzle a Philadelphia lawyer to say what it is; but judging by the smell as well as the taste, it might be called garlic, without offending against the statute of truth.

Grabb.—Well, you are all alike! Did'nt I let you feed off the crop of clover, almost before it was out of the ground?

Cows.—That's fact! Indeed we were at last obliged to dig for it, and you will feel the effects next winter, or we are no conjurers.

Grabb.—Ah, I had need be a conjurer to know how to satisfy you all; but what have you done with the sheep?

Cows.—What, these large bodied, long wooled animals, for which you gave in exchange, your small breed, which, *even they*, could only just keep body and soul together, by picking the short herbage of the pasture? Oh! we have done nothing with them, but they have at last been able to *do something for themselves*, for finding it impossible to subsist on such short commons, and that they were *growing less* every day, they sought for a hole in the fence, and by waiting until

they were reduced so much in size as to be able to creep through, they at length passed into your wheat, with the intention of returning after they had filled themselves, but this they could not do *then*, and it is not probable that they have attempted it since, so you had better look for them, for ere this, they have cost you as much as they are worth, in the damage they have done to the wheat crop.

Grabb.—Well, 'tis no use to try to do any thing more, and so I'll go straight home—no, not straight, for if I do, I shall get amongst the porkers, and they are grumblers by profession.

9. Pigs.—*Porkers*, did you call us? 'Twill be long before we have any pork about us, with our present mode of living—call us *grunters*, for so we are, and with reason; we wonder you are not afraid to meet us after dark, for we are but the ghosts of things that have been. There is this consolation in it, however—our lives will be spared, for we shall never be worth the trouble of killing; indeed, that in a little time would be "no murder," as it would be like one of your neighbors, who killed his pigs to save their lives!

10. *Grabb.*—Ah! well, here come the Horses, they are the only generous animals upon a farm: but where are ye all going, in such a hurry?

Horses.—We have come at last to the resolution of no longer starving quietly, so we are going in a body to break over the fence into Farmer Clement's clover; we know where the weak place is, for we have heard you promise for the last three months to get it mended, and *of course* it is not done yet. We do not intend to break into your own clover, as that would be punishing ourselves the next winter, for we calculate there will not be more food than enough for us all, if we eat stock and block of the whole farm.

By this time the farmer had reached his house, and going in, said to himself, there is no comfort out of doors, let us see if we can get a little within—wife, bring the rum bottle and a pipe. Talk of the independence of a farmer's life indeed! 'tis all a hum—here am I, with the best intentions in the world—

Wife.—Not the value of a cent! all your *intentions* never grow into *actions!* Now just sit down, and I'll sum up the thousand and one promises that you have made me to do the necessary repairs about the house—and to begin with the roof of the dairy, which was stripped off by that storm last autumn, and there it remains in the same state to this day—

Grabb.—Take care, *let me get to bed*, out of the way!

Frank.—Oh! thank you; but now, to make a perfect picture, we should visit his fields with a good farmer and husbandman.

Father.—That indeed would be much more agreeable, and some day we may do so: but it is now late—*let us get to bed*, as Grabb said, but not for the same reason, blessed be God!

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PART II.

Frank.—Well, Father, you see the book is right—"nothing is impossible." When shall you be ready to give us the other side of that picture which you yesterday drew for farmer Grabb?

Father.—The twin brother of the above proverb is, "nothing like time present"—by means of both, we may perform prodigies; so let us try at once. We will take our neighbor Sykes for the converse of the picture, and suppose him going into his fields to "meditate at eventide."

No. 1. *Wheat.*—Ah, Farmer, I am glad to see you; 'tis not often that you are absent for two evenings, I was afraid you were sick.

Sykes.—Why, you see I had promised my wife to attend to some little alterations about the house, and that has prevented me from seeing you as usual—we must take care of the women, you know; or they will not care for us—but *you* look well.

Wheat.—Yes, thanks to your bounty. I am now feeding on that magnificent coat of manure which you gave to the young clover last spring, and just at the time too, when it is needed, for if you will examine the plants on your left, you will find that the ear is already formed in the blade, and that they are all *five chesters* too.

Sykes.—That's capital! Now that comes of being kind to the soil.

Wheat.—And now, will you cast your eye over the ridges, and say if you see any piece of wheat in the county so uniform and regular in its growth? The color of the plants on the sides of the ridge, is, if any thing, of a deeper green than are those on the top or crown of the ridge—a sure prognostic, at this season of the year, of a heavy crop. The field just below is wheat, sown after a whole year's fallow, with dung; but there the order is reversed, for the plants which are near the furrows on the sides of the ridges, are weak and yellow. And only trace the rows of green spots, in straight lines right across the fields! they were occasioned by the heaps of dung, which remained unspread for weeks, until they were overgrown with weeds, upon what was termed a fallow! The weeds now are sturdy witnesses that the cultivation and dung have done much more for them than for the wheat, and yet it is probable that Farmer Grabb expects to reap a profit from his crop!

Sykes.—I do not think that he will have either a reap or a profit. Your present appearance warrants an early harvest, by the blessing of a good season, and I am delighted

with the prospect. Can I do any thing more for you!

Wheat.—No, but there is something that you must do for yourself—you must increase the size of your stack yard—I go for nothing less than forty bushels per acre.

2. Corn. *Sykes.*—Well, I am glad to see you looking so much better; your first appearance was very weak and sickly, and my neighbors wanted to persuade me it was because I sowed the seed with Buckminster's drill, but I knew that could not be the cause, for I never saw any machine operate better; I only wish the handles were a little longer and lower.

Corn.—My sickly appearance was owing to your own good management.

Sykes.—Why, how could that be?

Corn.—You know that you are in the habit of ploughing a *leetle* deeper every time, and thus a small portion of the sterile subsoil was brought to the surface, and in this the seeds were sown; and the roller of the drill passing over (a capital invention) pressed them so closely into the clay, and rain falling immediately after, and following the track of the roller, the surface became so hard and dry, it was with difficulty that I could penetrate it, and for a few days I know I looked miserably: I however soon got to the manure below, which you had so bountifully supplied, and now I feel as though I could mount to the height of ten feet. If the season should be favorable, you may put me down for 110 bushels per acre. I am in no fear of the weeds which I see springing up around me, you'll take care of them, I know.

No. 3. Sugar Beets. *Sykes.*—Ah! Mons. Sugar Beets, how do you do? How you like our country and climate? How you like the exchange?

Beets.—Ah! Mons. Farmer, I like your country! I like your fine, light and sunny days—they make *saccharine;* I like the exchange too, 'tis all in favor of America. But what for you not make sugar? make plenty sugar—more than in France; great remuneration! sweet recompense—no trouble, all pleasure, all profit.

Sykes.—I am not prepared to make sugar this year, next year I will do it, without any fear for the result. In the mean time, unlike most other speculations, the growth of the sugar beet is about the most profitable crop which a farmer can grow for winter food; horses, cattle, sheep, hogs, and poultry, all are fond of it; and better than all, it contributes, in a surprising degree, to the farmer's comfort during the dreary time of winter, as it enables him to meet his animals without reproach, and gives him the means of fattening his stock at a time that others are starving; and he can rear house lamb, which about Christmas, would bring a fine price in the market. In the introduction of this crop to notice, there has been no mistake, and in substituting it for a crop of barley, I have relieved the land of an exhausting crop, and adopted one that is ameliorating; requiring neither fallow or dung, when the land is in good heart—so farewell, Mons. S. Beet.

S. Beet.—Adieu Mons. Farmer, "vive la Republic America!"

4. Potatoes. *Sykes.*—Well, the progress which you have made in growth during the last two days surprises me! But never, for a moment, have I doubted the fulfilment of my most sanguine expectations respecting this, my favorite crop.

Potatoes.—But you have left us nothing to do but to grow: your labors began last autumn, when you ploughed the land deep, and laid it high and dry for the winter; and before others could get on their land in the spring, you had planted your crop. Then again, your judicious management in not moulding us up—we have only to go on to maturity, while the crops of those who keep moulding, never know where to be, or what to be at; for just as they have discovered the height at which to form the bulbs, comes the hoe, and buries them so deep as to ruin them: they are therefore compelled to begin to form their bulbs higher, to be within the influence of the sun, leaving their first formed bulbs to their fate; but, exhausted in a degree by the double exertion, they are weakened, so as not to be able to bring the higher crop, any more than the lower, to perfection, and so both are much reduced, both in quantity and quality, having many small and useless bulbs; happy, however, if they escape a third, or even a fourth moulding. Men are very silly to suppose that potatoes don't know their own business best; their fear, that without moulding, they would form their crops on the surface, is very childish; why, *even they* themselves would not be guilty of any thing so thoughtless; their desire is, only to find the spot where they shall be within the reach of the sun's rays, and men need not fear that they will get above it. All the crops that are not moulded up, are free from those half-formed bulbs, or warty excrescences, which are so apt to deform those which have been nursed into the rickets; and there are very few small bulbs, for the root is not anxious to form more than it knows it can bring to perfection. By your excellent management, you will secure a harvest ten days earlier than your neighbors, a crop larger in quantity, and superior in quality, and which will command an extra price in the market—put us down for 780 bushels per acre.

5. Clover. *Sykes.*—Well, this is the finest crop of clover in the country, and will soon be fit for the scythe.

Clover.—And no thanks to me, for you made me what I am, by that magnificent covering of compost, by which I was literally buried alive. If the season remains favorable, I can promise you two tons of hay per acre the first crop, one ton per acre the second, and a capital aftermath for your dairy, and if that won't yield you a profit, why then quit, and *go a fishing!*

6. Cows in Pasture. *Sykes.*—Well, Fanny, Kitty and Judy, what have you done with Bill!

Cows.—Oh! he lies under yonder hedge, complaining *it is easier to lie down than to rise*, and thinks it hard to have to accompany us twice to the yard when we go to be milked—indeed he will soon be too fat to be healthy.

Sykes.—Well, I think you all live in clover, and the return which you make of ten pounds of butter each per week, is a proof of your gratitude for good treatment.

Cows.—We are very happy, and the proverb says, "without comfort you can't make butter." But our happiness is owing to your excellent care of us, especially in dividing our pasture into three compartments, and changing us often—if men were but sensible of the advantage this is to the dairy, their cows would not be compelled to lie in the same pasture until the very atmosphere is contaminated with their filth; the milk would keep longer, and the butter would not be so soft in hot weather, to say nothing of the *trifling circumstance* of about two pounds of butter a week from each cow, in favor of your plan.

Sykes.—Well, I never heard cows talk so reasonably before! and I wish you would read Grabb a lecture upon Dairying; but unless he is the merest idiot alive, he must sometimes have heard and read, and felt the reproachful looks and low murmurings of his poor half-starved animals in the garlicky meadow below: but he is sunk so low that it must be up-hill work for him, I know.

7. Sheep. *Sykes.*—It is remarkable, that just as I had determined to dispose of my Leicesters, and purchase sheep of a smaller breed, more suitable for short pastures, that Farmer Grabb should decide upon parting with his Southdowns, on the principle, that "as a sheep is a sheep, you know, (glancing his eye at Frank,) a large one must be more valuable than a small one"—(Frank.) (That's a capital hit at me! I shall never forget the lesson which I have been taught) so our exchange was no robbery.

Sheep.—To us it was "all 'tother way," as Farmer Ashfield says, but Grabb's sheep declare it was robbery, rank robbery; for they have been robbed of the means of existence.

Sykes.—To me it has been advantageous, and has proved the truth of the calculation on proportioning sheep stock to land: "The same land which carried indifferently, forty-five long wooled sheep, maintained in good plight one hundred and fifty Rylands." I am therefore satisfied with the exchange.

8. But here come the Horses.—Well, my beauties! why, where are ye going in that frolicsome mood!

Horses.—Oh, we have eaten our supper, and are now going to rest in the upper pasture; we say to *rest*—Farmer Grabb's horses go to *labor*, for as they get no food in the stable after their day's work, they are compelled to gather their supper before they eat it, and hard work it is, with a bite so short: and after laboring at the plough all day, and all night at a short bite, 'tis no wonder that it costs him more in whips than in corn. We shall therefore be ready by break of day for whatever you will put us to, for "with horses who are kept above their work, their labor is play."

Sykes.—Well, but take care now, and if you meet Grabb's horses down the road, don't go to play with them, for they have something more serious to think of. Halloo! where did that groan come from? "And yet another, and another," as the man says in the play. Oh! 'tis only the hogs, who have overeaten themselves again; this is butter-making day, and they are always a little uneasy after that.

Hogs.—And so would you be, if you had swilled as much as we have; but you men have no feeling for poor dumb brutes!

By this time Sykes had reached his house, and entered, singing the last verse of that fine old song, "No glory I covet;" it runs thus—

"How vainly through infinite struggle and strife,
The many their labors employ!
Since all that is truly delightful in life,
Is what all, if they will, may enjoy."

Sykes.—Well, wife, your elegant supper table looks very inviting!

Wife.—Frank, get your Father's slippers.

Sykes.—And my bettermost "Bleuse,"* I mean now to "rest and be thankful." And Frank, after supper, and while your mother and sister are "plying their needles," you shall read to us "The Yellow Shoestrings," which I read when I was a boy; and to the golden rule contained in that little book, "Nothing is impossible to a willing mind," I owe the chief blessing of my life, don't I, wife!

Wife.—Well, I confess that if it had not been for your perseverance, the difficulties which opposed our union would never have been surmounted, and that, I guess, would have been unfortunate for both of us.

* The French Frock, a most convenient and suitable dress for farmers.

Sykes.—Well, after that, I think we may go to supper!

Frank.—Thank you, Father, these stories will make a beautiful pair of portraits, and shall be preserved by me with gratitude; together with those beautiful lines which you gave me yesterday, and which have since been continually in my thoughts—

For every evil under the sun,
There is a remedy, or there is none;
If there be one, try to find it,
If there be none—never mind it.

For the Farmers' Cabinet.

Wheat.—Diseases in Wheat.

[Concluded from page 44.]

Wheat is subject to various *accidents* and *diseases*, some of them peculiar to itself. The most dreaded and destructive of the diseases to which it is liable, is *blight*, so termed from its effects upon the ear, or *mildew* from its supposed cause, namely *mel-dew*, from an old opinion that it was produced by honey-dew falling from the air.

In many of the wheat growing sections of the Union, these diseases are denominated *rust* and *smut;* under the term rust, blight and mildew are included. But these diseases, if they are really distinct, are nevertheless so nearly allied, that for all practical purposes they may be considered as one.

It may be assumed as a principle, that the immediate cause of every distemper which attacks the plants of wheat, may be ascribed to the state of the season, combined with the circumstances of soil, situation and seed. It is indeed not necessary to class them; but the great body of farmers consider them as distinct disorders, arising solely from the influence of the atmosphere.

Mildew they regard as a disease which affects the ear, though, in general, it is apparently more injurious to the straw, and is produced by causes somewhat similar to those which occasion blight, though at a more advanced period of the season. It usually first attacks the leaf, and then the straw, just at the time the grain is blooming; and when it comes on immediately after the first appearance of the ear, the straw will also be affected; but if the grain be fully formed, then it is but slightly discolored.

There are many causes which probably contribute to the production of this disease. It is most likely induced by the peculiar state of the atmosphere, during the periods of flowing and ripening. This opinion appears to be correct; so far as we are yet able to judge of the peculiar cause.

The Rev. Henry Colman, an eminent agriculturist, and a careful observer of all things connected with agriculture, and those branches of science to which it is allied, has furnished the public, through some of the early volumes of the New England Farmer, a number of able and highly instructive essays on the culture of wheat; and after many experiments, and careful and patient observation, he come to the conclusion (without, however, assuming to decide the question) that the disease was "atmospheric—occurring at a particular state of the plant, which rendered it peculiarly liable to blight or mildew."

One experiment detailed by Mr. Colman, and which, no doubt, had considerable weight in bringing him to the conclusion to which he has arrived, that the cause was most probably atmospheric, is too interesting to be passed over. The following is Mr. Colman's account, as detailed in the "Complete Farmer," for 1835, page 125.

Three acres of winter wheat was sown on some of the best land in the Deerfield, Mass. meadows; the green sward was turned up in the fall, rolled and harrowed, seed well soaked in brine, limed, and sown on the 27th of October, at the rate of two bushels and a half to the acre. One-half the field was highly manured—to the remainder no manure was applied. The seed came up finely, and nothing could exceed the beauty and luxuriance of the growth, most of the field averaging more than five feet in height.

Above half the field, including an equal portion of the manured and that not manured, was passed over twice in the spring, after the grain had got to be six inches in height, with a light harrow, drawn by one yoke of oxen, and three weeks after was subject to the same process.

The effect of this was to destroy very few of the plants, and to render the growth of what remained much more luxuriant, producing such an increase of the stem, and such an extension of the heads, as to attract the notice of the most casual observer, and to induce several persons who were ignorant of the process to which it had been subjected, to inquire for the cause of the difference in the two parts of the field, and to ask if a different kind of seed had been used.

After all, however, to my extreme disappointment, the whole field has been blasted, and I shall hardly get back the amount of the seed sown, and that in a small shrivelled grain. The crop is housed, but will scarcely repay the expense of threshing.

Now that this result was not owing to the use of stable dung is obvious, because none was used. In that part of the field where the blight appeared to commence, and to make most rapid progress, no manure whatever was used.

It was not owing to the want of the *specific property* in the soil, as far as that is to be

found in lime and slaughter-house manure, for both of these were employed. The seed was limed, and the above manure copiously applied.

It is not to be attributed to the *luxuriance* of the crop, for several pieces in the neighborhood have suffered equally, and from the same cause, when the cultivation was by no means so high.

It is not a time of universal *failure*. A good deal in this vicinity is perfectly healthy and sound; and I have already reaped on the same farm a small piece of wheat, say half an acre, on higher land, which was healthy and fair, though from the condition of the land it gave but a small product. This, however, though sown at the same time, was ready for the sickle more than a week sooner than the other, from the drier and poorer quality of the soil.

As the wheat was filling fast, we had frequent showers, and much of what we Yankees call muggy weather. One day in particular the air was sultry, the heat intense, and the showers frequent, with intervals of sunshine; and the earth was steaming most profusely.

An intelligent farmer in my employ, accustomed to the cultivation of this grain in one of the best wheat districts in New York, remarked to me that this was very severe weather for my wheat, and that he feared I should lose it. The rust in fact appeared for the first time the next day, and rapidly extended itself over the whole field, presenting no difference either in the manured, and in the parts not manured, and of course less luxuriant.

Had my wheat been sown *earlier*, so as to have been farther advanced, it would probably have escaped; had it been sown *later*, so as not to have been so far advanced as it was, perhaps I should have been as fortunate. But the occurrence of such a peculiar state of the atmosphere being wholly accidental, at least as far as we are concerned, it is impossible to make any certain calculations about it."

The remedies against rust, mildew or blight, as laid down in the "Code of Agriculture," by Sir John Sinclair, are as follows: Cultivating hardy sorts of wheat—early sowing—raising of early varieties—thick sowing—frequent changes of seed—consolidating the soil—using saline manures—improving the course of crops—extirpating all plants, that are receptacles of rust, and by protecting the ears and roots of wheat by rye and other crops.

In the present state of botanical knowledge, as regards the diseases of grain, it is out of our power to offer any remedy for injuries arising from such various and uncertain causes. But as they seem to be chiefly occasioned by a close state of the atmosphere, they may, probably, be partially guarded against, by preserving as free a circulation as possible of air among the plants, by keeping the fences as low as the security of the crop will permit; and especially by drilling the grain instead of sowing it broad cast.*

Smut is a disease almost peculiar to the grain of wheat. It differs from rust and mildew in this, that the means of prevention are generally within our power. The remedies are numerous and simple,—such as are calculated to destroy any noxious quality, adhering to the seed grain, be it the seeds of minute parasitic plants or of animalculæ.

A European farmer,† after repeated experiments, gives it as his opinion that the best preventive is to steep the seed in strong lime water, which, it is presumed destroys the vitality of the seed of the smut. It is a general opinion in this country, founded on experience—that the steeping and liming of seed wheat, is a certain remedy against smut.

The use of fresh burnt lime is almost indispensable; as lime, exposed for any length of time to the action of the atmosphere, will, in a great measure lose its causticity. By absorbing carbonic acid it is restored to the state of limestone or chalk, and its alkaline qualities are completely neutralized.

One of the most eminent of American agriculturists,‡ whose opinion on these matters is always received as good authority, says, that he is surprised to learn that smut is still permitted to adulterate and diminish our grain crops, when it is a fact amply and satisfactorily established, that steeping the seed grain twelve hours in brine, and rolling it in fresh slaked lime, before sowing, will prevent the evil.

The *pepper-brand* and *dust-brand*, the two species of smut, are parasitic plants, the minute seeds of which attach to the grain, and are propelled through the sap vessels of the plant, to the germs of the young grain. The salt and lime destroy the vitality of these seeds.

Of all the injuries to which wheat is liable, there are perhaps none which are more to be dreaded than those arising from *insects* and *worms*, which invariably commit great devastation, and in some seasons spread their ravages to a very alarming extent.

Of these, the various tribes of predatory insects, those known under the names of wheat fly—hessian fly—or weevil, or any of their numerous varieties, are the most dangerous; and although treated of by naturalists, they have furnished no means of either a radical prevention or cure. The wheat fly generally

* British Husbandry, vol. ii., page 159.
† F. Baner.
‡ Judge Buel, Esq., of Albany, N. Y., conductor of the Cultivator.

makes its appearance about the middle of June, and its operations, it is asserted by some, cover a period of from thirty-seven to thirty-nine days.

A late American work on agriculture,* says that the Hessian fly deposits its eggs in the winter wheat, in which state it remains until the plant has acquired some growth; the grub then feeds upon it, and the plant having its nourishment intercepted, sickens.

In the spring it assumes the perfect form, as soon as the weather is moderately warm, and immediately proceeds to deposit its eggs in the wheat.† Wheat grown on highly cultivated land is not generally much injured by this fly.

No individual, probably, has done more to investigate this subject, and find a remedy for the evil than JAMES WORTH, Esq., of Newton, Bucks county, Penn. The Memoirs of the Pennsylvania Society for the year 1823 contains several communications, giving in detail, the results of his indefatigable and valuable researches.

He recommends a change in the course of crops as the most effectual remedy, viz: Break up for wheat, follow with corn, and then oats and grass seed, *ploughing and harrowing the stubble immediately after harrest*, and a SECOND TIME BEFORE MAY, by which means great numbers of insects will be destroyed in the pupa state.

The best remedies seem to consist of a good tilth—a rich but not wet soil—late sowing—ploughing in the stubble immediately after harvest—and perhaps feeding off the crop in the spring with sheep.

There is a case cited in the Memoirs of the Board of Agriculture of New York, in which two bushels of lime were sown upon an acre of wheat infested by the fly, while there was a heavy dew upon the ground. Two adjoining acres, same quality of ground, on which wheat, of the same kind, was sowed at the same time, were not treated with lime. The result was that the limed wheat gave a good crop, the other not half of an average crop.

SAMUEL TALLANT, of Canterbury, N. H., states that on the first of July, 1838, a few flies known as the weevil or grain worm appeared upon his wheat, and excited his notice. He examined them from day to day, and found that they increased with such rapidity as to threaten destruction to his crop. He scattered, by way of experiment, a bushel of slaked lime on about half an acre of the wheat, while it was wet with dew.

The ensuing morning he visited this piece of wheat, and after a careful examination, he found but a solitary fly or worm among it, while in all the other parts of the field, he found the fly had vastly increased in number. He commenced immediately liming the whole field, but his lime falling short, and the case being one admitting of no delay, he had recourse to ashes, which he bountifully applied. The worm or fly disappeared immediately; and the field gave a very fair crop of good sound wheat.*

* The Practical Farmer, by an American, N. York, 1839—8vo.

† See very interesting papers on the Wheat Fly, by *Observer*, in Farmers' Cabinet, vol. i., page 289—also page 273 and 306.

Visit to the Farm of Elias Phinney, Esq., Lexington, Mass.—By Jos. Breck.

BOOK FARMING.

We have in the farm of this gentleman substantial proof of the efficacy of "book farming." He assured us that his interest in agriculture was first awakened by reading the N. E. Farmer. Having received a classical education, he has to be sure, the advantage of our farmers in general, for whom so little has been done by education,—we were prepared, therefore, in viewing his premises, to witness something a little extra, from what may be seen on well cultivated farms in general: but we found that our expectations had not been raised sufficiently high: we were in fact delighted and astonished to be made acquainted with the wonderful improvements which have been effected on this place since he began to cultivate it fourteen or fifteen years since. It was then a poor worn out farm, covered with rocks, whortleberry bushes, and scrub oaks; while the lowlands were inaccessible quagmires and alder swamps of the most unpromising description—the whole farm, consisting of one hundred and sixty acres, not affording more than eight or ten tons of hay, and all other crops in the same proportion,—the fences out of repair; the fruit of an inferior quality, fit only for cider; and every thing upon the place at sixes and sevens, as the saying is. It does not seem hardly possible that so much could have been achieved in so short a time. It shows what can be done by untiring diligence directed by science. It is a complete triumph of "book farming" over the old course of husbandry, handed down from father to son. Mr. Phinney has had the boldness to strike out of the old path, and in some instances pursue a course of his own invention.

IMPROVEMENTS.

His improvements may be divided as follows:—

1st. In planting upon the green sward without disturbing the sod.

2d. In clearing and draining his waste

* For Mr. Tallant's account in full, see N. H. Farmers' Monthly Visitor, vol. i., page 51. Also Farmers' Cabinet, vol. iii., page 324.—*Editor.*

swamps and quagmires, and converting them into the most productive grass and cornfields.

3d. In clearing his uplands of rocks and laying them into walls of the most durable and massive description—subduing the bushes in the unproductive pastures, and bringing them into fertile fields.

4th. In his orchard of apple trees, which for beauty, thrift, and produce, can hardly be excelled.

5th. In his choice collection of fruits of every desirable variety.

6th. In his improved breed of swine.

7th. His barns and accommodations for cattle, swine, poultry, &c.

To which may be added many other improvements of minor importance, but which add to the interest, beauty, and profit of the place.

PLANTING ON THE GREEN SWARD.

The idea of planting upon the green sward without disturbing the sod, has been ridiculed by a writer in the N. E. Farmer, vol. 17, page 317—as being impracticable, especially in the potato crop. We saw an example of this operation, and one too of a most perfect kind, which we should suppose sufficient to convince the most sceptical. It was in a lot of three acres of potatoes. On the 20th of June there was a heavy crop of grass upon the ground, in addition to which twenty loads of compost to the acre was spread on, and at that time turned over; after ploughing, it was rolled with a heavy roller, (an implement by the way which should be in the possession of every one who calls himself a farmer.) The potatoes were planted in drills—had been hoed but once; yet hardly a weed was to be seen, not a spear of grass daring to show itself, and sufficient earth, about the plants, with every prospect of an abundant harvest. In the spring this ground will be in fine order to lay down again to grass, and that too without disturbing the sod; or if advisable, planted with corn or any other crop.

VEGETABLE MATTER.

Allowing the vegetable matter turned in equal to twenty loads of compost per acre, we have with that spread what is equivalent to forty loads per acre. No wonder then that by following this process continually, he should be able to cut from 2½ to 3½ tons of hay per acre, which he actually does from his grass lands. He has another idea which we think important for a good crop of grass; that is, to sow an abundance of seed. His rule is twenty pounds of clover seed per acre, together with a liberal allowance of herds grass and red top to boot. This will astonish most of our farmers, who can afford only from four to ten pounds per acre.

CORN.

We saw a field of six acres of corn, from which a crop of eighty bushels to the acre is estimated, and provided we have warm weather sufficient to ripen any corn, we should judge the estimate not too high; the cold weather a few days past, is however against the corn crop. The variety of corn planted is called the Phinney—a fine long eared, twelve rowed variety, and earlier than the Dutton Corn, to which it has some resemblance. In another lot on his peat meadow, we saw a smaller field, on which the corn was more luxuriant and promising than on the one just named, and if that produces eighty bushels, we should not be surprised if this produced one hundred bushels to the acre. Think of this you that own unreclaimed peat meadows, and are longing for the fertile prairies of the west; before you sacrifice your farms and bid adieu to the institutions and hills of New England, make an effort and bring them into subjection: it will prove an antidote to the western fever, or we are much mistaken.

WHEAT FIELD.

We noticed a fine field of wheat of eight acres, which the laborers were gathering into the granary. It appeared well filled out; the produce estimated at twenty bushels per acre: it was of the variety called the Black Sea, which we find succeeds best in the vicinity of Boston and most generally cultivated.—We were informed that about thirty acres were under the plough the present season. Besides Indian corn, potatoes and English grain, Mr. Phinney cultivates the root crop extensively. His ruta baga, mangel wurtzels, sugar beets and carrots looked very promising, and will afford an abundance of food for his numerous family of swine, and other stock.

DRAINING.

In draining his low lands, Mr. Phinney first cuts off all springs from the surrounding hills by a deep cut at the margin or outer edge of the piece, which is converted into a blind ditch: from this most important cut, the drains are made to the centre ditch. Where there is an abundance of stones as in this case, all the drains may be filled and covered over, so that the operations of the plough, &c., may not be impeded. We were shown one piece over which it was dangerous for his cattle to pass, and in which they sometimes got mired, before he commenced the draining process; here his first essay on draining had been made, in which, through inexperience, he only cut the centre and cross drains, but with all he did, it would produce nothing but skunk's cabbage, hellebore, brakes, &c., and it seemed that all his labor had been lost, un-

til he learned the importance of the ditch around the margin, which produced the desired effect, and now it ranks among his most productive grass lots, and a loaded team may be driven without difficulty over it.

DIGGING PEAT.

We were pleased with his system of digging peat, of which he has an ample supply. Where peat is generally dug, the grounds are left in the roughest state, and present an unpleasant and unsightly appearance, and remain an unproductive waste: but it is his rule to have the top split, a depth of ten inches or a foot, (the portion unfit for the fire,) thrown over and levelled as the work of digging proceeds: in this way it soon becomes covered with grass which answers very well for stock hay.

STONE FENCE.

One peculiar feature of this farm is the massive stone walls by which it is enclosed and divided. It would seem a Herculean task to build the wall that has been put up under the care of the intelligent proprietor. In the measurement of the length of wall upon the farm, we may safely say there are miles of it,—we know not how much there may be; on this subject we are not informed; one piece of considerable length is ten or eleven feet thick, seven feet high, and covered with grapes, which have been set out on the south side of it: a fine native variety, found on the place. The vines were loaded with fruit, and bring by the quantity from eight to ten cents per pound: we should judge there might be a ton of them. All the other walls are double, from five to ten feet thick and five to six feet high, and must have consumed an enormous quantity of stone. We noticed grapes upon many other portions of the wall.

ORCHARD.

The orchard on this farm is equal if not superior to any we have seen. It contains from four to five hundred trees, principally Baldwins, Russets, and Rhode Island Greenings. It produced a very abundant crop last year, but this year there is scarcely an apple upon it. It was planted somewhere about fourteen or fifteen years since. The soil is generally a light rich loam, upon a gravelly, and in some places a rocky foundation. The trees were taken from the nursery in autumn, and placed in trenches until the following spring. They were planted near the surface, and in many instances, upon the surface, without digging any holes, and the dirt placed upon the roots. The orchard is situated on a side hill, having a south and south-east exposure. Many of the trees were severely injured by the hard winter of 1835 and '36, which caused the destruction of some of them. Their places have since been supplied with young trees. The mice injured some of the trees a number of years since, by gnawing the bark, so that in some cases the trees were completely girdled, and to all appearance lost. An ingenious method was devised to save them. Having prepared some large scions, five or six of them were inserted in each tree below the wounds in the bark, and then connected with bark above by the common operation of side grafting: in this way the sap was conducted from the roots to the top, and the trees saved. We saw some of the trees thus operated upon; the scions had increased to the diameter of three or four inches, and had nearly come in contact with each other: we should doubt, however, whether the trees would be long lived, as the old wood must be unsound, and an early decay must be the consequence. The trees appeared now as vigorous as any of their neighbors.—The orchard has never been laid down to grass, but kept in constant cultivation. The trees are finely shaped, having been pruned with a skilful hand, and just high enough from the ground to work under without inconvenience: the trees are about two rods apart: in some places they nearly cover the ground.—We do not remember how many barrels were gathered for the market last year, but the quantity was great. Beside this orchard there is another that has been set out only two or three years, of two or three hundred trees, all of which are sweet apples, designed expressly for swine. All the refuse apples are fed to the hogs, and considered much more valuable for that use than for cider.

VARIOUS FRUITS.

The farm is abundantly stocked with pears, plums, peaches, grapes, &c. There are more than two thousand fruit trees of various sorts upon the place, and all have been reared and pruned by the hand of the proprietor himself. One of the most pleasant sights is a trellis, thirty rods in length, covered with the Isabella grape, from which was gathered last year two tons of grapes, which found a ready sale in Boston market at ten to twelve cents per pound. The crop was said not to be so heavy this year, but to us it appeared very great. There is also a small house where the more delicious foreign grapes are grown. The plums had suffered severely from the curculio, and most of the trees had lost their fruit. There is a disease upon the currant bush, which we have noticed in many other places as well as on this. The bush loses its leaves prematurely, and the fruit becomes withered and worthless. We have in vain sought for the cause. Can any of our readers inform us, and prescribe a remedy? The vegetable garden is large and well stocked with every variety: what is not consumed in the family is marketed or fed to the swine.

SWINE.

Mr. Phinney has taken great pains to improve his breed of swine, and probably there are none superior in the state. As we have a promise from him of a description of his pigs and piggery, for the N. E. Farmer, we shall not enlarge upon this subject. He prefers a cross of the Berkshire and Mackey to any other, and most of his pigs for slaughter are of this description. He has the full blooded Berkshire, Mackey, and other breeds, and mixes to suit himself. We noticed a sow lately imported from England, called the Essex half black: the hinder part of the animal is jet black, and the forward half white.—There are some good points about her, and she may prove a valuable acquisition to his stock; not having recovered from her sea voyage, she does not appear now as she will after a few weeks of good keeping. There is an old sow here, quite an object of curiosity, (we do not recollect the breed,) that weighs nine hundred pounds, a monstrous overgrown animal: she had been turned out of her pen to enjoy her liberty a little, which she did not, however, seem to appreciate much, as all the room she wanted appeared to be enough to turn round and lie down upon. She looks as though she might be the parent of a most numerous offispring, but we understood she was without issue, having apparently no inclination to form an intimacy with the other sex. The number of swine is about one hundred and forty, the care of which employs one man constantly.

BARN—OUT BUILDINGS.

The barns and other buildings for the accommodation of stock are convenient and comfortable, with sufficient room for the hay and grain produced on the farm. About one hundred tons of hay are cut annually, part of which is sold. For every ton of hay sold, one cord of manure is purchased. To improve the land and keep it in high tilth, it is necessary of course to manufacture a large amount of manure. This is done first by the hogs. The man who has the care of them is constantly employed at odd hours in furnishing them materials, such as meadow mud, peat, weeds, &c.: second, by sheep: in autumn one hundred and fifty or two hundred wethers are purchased from the droves, and fed through the winter: by March they are in good flesh and bring a high price, and pay well for their keeping; their yards being furnished with a plenty of mud and litter, when mixed by their excrements makes a rich compost: third—by the other stock and the manure purchased, which is carefully mixed with twice the quantity of meadow manure. One cord of this composition is considered about equal to one cord of stable manure alone.

In making our observations upon this place, we feel as if it was not in our power to do it justice, as we spent but a few hours upon it. Every part of it shows, that by science, industry and skill, it has been rendered worthy of being ranked among the first of well cultivated farms in New England, and its proprietor worthy of all praise for the laudable example he has set for the imitation of his agricultural brethren.—*N. E. Farmer.*

For the Farmers' Cabinet.

Essays on Agriculture.—No. VIII.

BY JOSEPH CLOUD.

A brief notice having been taken of the different substances entering into the composition of vegetables; we are still, however, at a loss to comprehend the multiplicity and diversity of operations, continually going on in vegetation, at the same time producing the vast variety of combinations, possessing different properties all formed out of the same ingredients. When we consider the unerring and mysterious laws that govern the vegetable economy, we are struck with astonishment at the order and regularity with which every object is obtained, and every thing is prepared for its intended purpose. It is too wonderful to escape observation, that a few simple substances, possessing individual inherent laws for their government, which, by their diversity of combinations, should produce all the phenomena of the vegetable kingdom, when we contemplate the laws that govern the ultimate particles of the matter entering into the composition of vegetables, which disposes them to unite, in different definite proportions, with similar and dissimilar particles of matter in the form of vegetable organization,* every change in the proportion necessarily producing a different effect in the organic mass. One particle more or less of any variety of matter may produce the cabbage or deadly nightshade, when an increase or diminution of the same variety of matter may produce plants possessed of very different properties. From the circumstance of the combination of every other variety of matter operating in a similar way, by pursuing the effects naturally resulting from the various combinations of the same causes, it is easy to conceive how the whole vegetable phenome-

* It is to be understood that whenever ultimate particles of different kinds of matter, uniting chemically, and forming solids, they may be with propriety considered as organizations, and consequently become governed by a new law resulting from the co-operation of the individual laws inherent in the particles of matter forming the organized mass. It is an immutable principle in the operations of matter, that the same causes in the same proportions, and under similar circumstances, will produce similar effects, and that by a variation in the proportions of any of the causes, different effects are produced

na is produced. Indeed, it is surprising that the quantity and variety of plants should be confined to so limited a space. But when we consider the controling powers of the laws governing the particles of matter, and confining their union in organization to certain definite proportions, every difficulty on that subject naturally vanishes. As all plants grow from seeds or buds, it necessarily follows that the seed or bud is a perfect *germ* or *nucleus* of organization, governed in its formation by the same prevailing laws that perfected the parent stock during its production —consequently, the seeds or buds of every variety of plant will, in all cases, produce similar plants, although the nourishment, when taken into the general vegetable circulation, may be similar in all cases. The peculiar assimilating power inherent in each variety of plants must invariably control, in the preparation and arrangement of the particles, the proportions necessary to enable them to assume the form of organization peculiar to the plant. If the *buds* or *germs* of organization of one variety of plant be *inoculated* into a different variety of plant, vegetation continues in such bud as freely as it would have done on the parent stock, and all accessions to the growth of such bud, and the fruit produced, will be precisely what it would have been if it had remained on the original stock; hence it is usual to gather different varieties of fruit from the same tree.

Mr. Phinney's Pigs and Piggery.

J. Breck, Esq.—Dear Sir—In compliance with your request, I cheerfully devote a few moments to giving you an account of my piggery. I will premise, by the way, that the writer of an article which appeared some months since in the Yankee Farmer, and which I regret should have found its way into many other papers, has greatly exaggerated the profits of my establishment. I have often stated, and now repeat, that the manure from my hog pens will pay for all the food which I *purchase* for them: the residue of their feed, by far the greater part, being the produce of my own farm.

When the average price of corn is one dollar per bushel and potatoes thirty-three cents, and pork will bring twelve and a half cents per pound, I have no hesitation in saying that there is a handsome profit in raising pork for the market, *provided* the hogs be of the best breeds. With such breeds I have always found that four quarts of Indian or barley meal, with an equal quantity of apples, pumpkins, potatoes or other roots well cooked, will give two pounds of pork. At this rate it will be perceived that there is a profit on the pork at the above price, exclusive of the manure the hogs make, which is of great value to the farmer, but by no means equal to the whole nor even half the expense of feeding.

My breeds are principally of the Berkshire full bloods, and a cross of this breed with the Mackey breed. This cross I have found decidedly preferable to the full bloods of either. I have an imported sow of the "Essex half blacks," being a descendant of the Berkshire, and highly spoken of by English breeders. The Mackey pigs were imported into this country from England some fifteen or twenty years ago, by Capt. Mackey, of Boston, and till within a few years were decidedly the best stock in New England, and perhaps in America. When first imported, Captain Mackey, on his farm at Weston, not unfrequently brought them up to six hundred pounds, at the age of eighteen months. In all the essential points, such as maturing early, lightness of offal, greater weight in the more profitable parts, thinness of skin, &c., they greatly exceeded the Berkshire breed. But by breeding *in and in*, as it is termed, they had greatly degenerated, and become weak and feeble in constitution, small in size, ill-shaped, and in some instances deformed. With the exception of the human species, no animal degenerates so rapidly by this practice of breeding in and in, as the hog. Judicious crossing is the only way by which a good breed of swine can be kept up and preserved. By proper attention to this principle, all good and valuable qualities of a breed may be preserved and the bad rejected;—without it the best breeds will soon become worthless.—With a view of restoring some of the good properties of the Mackey, I tried crossing them with various breeds, and with none have succeeded so well as with the Berkshire. The produce of this cross possesses all the good and valuable points of the Mackey, united to the health, vigor and size, without any of the coarseness of the Berkshire. The best pigs, however, that I have ever raised, and I can say without hesitation, the best I have ever seen, were produced by putting a full blood Berkshire boar to a sow which was a cross of the Mackey with a "Mocko," a New York breed, the progeny being half Berkshire, a quarter Mackey, and a quarter Mocko.

My stock of fattening swine usually consists of about one hundred, besides about fifty stores. My time for slaughtering is in February and March, when half my pigs are at the age of fifteen and sixteen months, being the fall and winter litters of the previous year, the other half being the pigs of the spring next previous to killing, and are at the age of nine and ten months. The former in years past have weighed from three hundred and fifty to four hundred pounds, and in some instances as high as five hundred pounds.

The latter from two hundred and fifty to three hundred and fifty pounds.

An inquiry is often made as to the best time of killing, or at what age it is most profitable to slaughter them. On a large farm where much green herbage is produced and where the value of the manure is taken into the account, I consider the pigs killed at the age of fifteen and sixteen months as giving the greatest profit. When it is intended to kill them at this age, they may be kept on more ordinary and cheaper food for the first ten or twelve months, or till within four or five months of the time of killing. The manure they make and the extra weight of pork more than pay the expense incurred in keeping them the longer time; but the spring pigs which are to be killed the ensuing winter and spring, must be kept upon the best of food from the time they are taken from the sow until they are slaughtered.

The older class of pigs for the first ten or twelve months, are kept principally upon brewers' grains, with a small quantity of Indian or barley meal, or rice, ruta baga, sugar beet, &c., and in the season of clover, peas, oats, cornstalks, weeds, &c., they are cut green and thrown into the pens; the next four or five months before killing, they have as much Indian meal, barley meal or rice, with an equal quantity of potatoes, apples or pumpkins as they will eat, the whole being well cooked and salted, and given to them about blood warm. During the season of fattening, an ear or two of hard corn is every day given to each pig. This small quantity they will digest well, and of course there is no waste. Shelled corn soaked in water made as salt as the water of the ocean, for forty-eight hours, with a quart of wood ashes added to each bushel, and given to them in small quantities, greatly promotes their health and growth. Their health and appetite is also greatly promoted by throwing a handful of charcoal once or twice a week into each of their pens. Their principal food should, however, be cooked as thoroughly and as nicely as if intended for table use. From long practice and repeated experiments, I am convinced that two dollars worth of material well cooked, will make as much pork as three dollars worth of the same material given in a raw state.

Pigs when first taken from the sow should be treated with great care, to prevent scouring and from becoming stinted; when either of these happen, it will require many days and sometimes weeks, to put them again into a healthy, growing condition. When first deprived of the maternal food, a little new or skim milk, boiled and slightly salted, and given to them often and in small quantities, will prevent scouring and greatly promote their growth. If intended for killing at the age of nine or ten months, they should be full fed all the time and kept as fat as possible. If on the other hand they are intended for killing at the age of fifteen or eighteen months, they should not be full fed, nor be made very fat for the first ten or twelve months.

To satisfy myself of the benefit of this course, I took six of my best pigs eight weeks old, all of the same litter, and shut them in two pens, three in each. Three of these I fed very high and kept them as fat all the time as they could be made. The other three were fed sparingly, upon coarse food, but kept in a healthy growing condition, till within four or five months of the time of killing, when they were fed as high as the others. They were all slaughtered at the same time, being then sixteen months old. At the age of nine months the full fed pigs were much the heaviest, but at the time of killing, the pigs fed sparingly for the first ten or twelve months, weighed, upon an average, fifty pounds each more than the others. Besides this additional weight of pork, the three "lean kine" added much more than the others to my manure heap. These results would seem very obvious to any one who has noticed the habits of the animal. In consequence of short feeding they were much more active and industrious in the manufacture of compost, and this activity at the same time caused the muscles to enlarge and the frame to spread, while the very fat pigs became inactive, and, like indolent bipeds, they neither worked for their own benefit nor for that of others.

For the purpose of increasing my manure heap, my pens are kept constantly supplied with peat or swamp mud, about three hundred loads of which are annually thrown into my styes. This, with the manure from my horse stable, which is daily thrown in, and the weeds and coarse herbage which are gathered from the farm, give me about five hundred cart loads of manure in a year.

On regular and systematic feeding and clean and dry bedding, the success of raising and fattening swine very much depends. A faithful feeder, also, who has some skill and taste, and withal a little pride of vocation, is indispensable. Homer informs us that much of the success of Ulysses in rearing his fine hogs, was to be attributed to his faithful Umeus, whom the old soldier styled (*δῖος συβώτης*) godlike swine-feeder.

The annexed is a rough plan, which may serve to give you an idea of the compact manner in which my hogs are kept. It is intended for a plan of the upper story and one end. The lower story corresponds with the upper, except that the promenade is extended

out about six feet from the line of the upper outside promenade line.

PLAN OF THE FLOOR OF THE UPPER STORY.

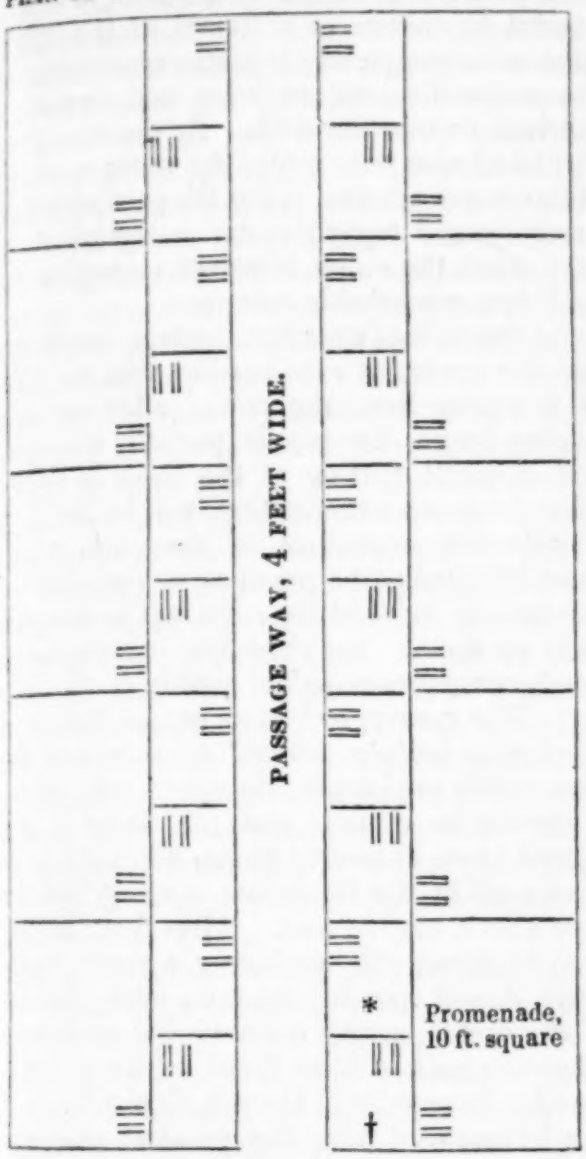

Fig. 12.

END VIEW.

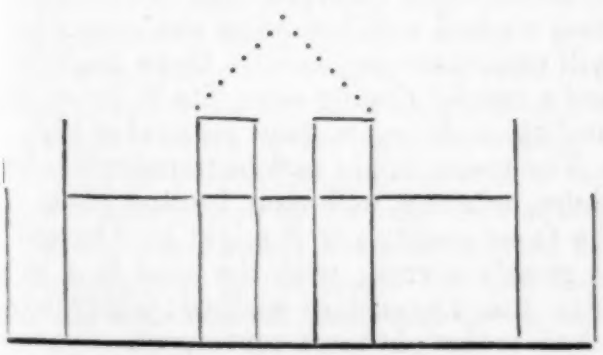

Fig. 13.

The roof covers the passage way and eating and sleeping apartments on each side, and made sufficiently high to enable the feeder to pass between the pens. The floors of the eating and sleeping apartments are made perfectly tight—the floor of the promenade in the upper story is laid with narrow plank, placed about one inch apart, so that whatever is dropped by the pigs, falls through on the compost beneath. The promenade of the lower story has no floor. The only passage for passing the pigs out and in, is by a slide door between each dormitory and the main passage way. The pen being on ground which is a little higher at the end where the boilers are placed than at the other, the floor of the boiler room is on a level with the passage way of the upper story, where the pigs kept in this part of the building are taken in and out. At the other end of the building, the floor of the passage way in the lower story is on a level with the natural surface of the ground, and by a door at that end of the passage way, the hogs in the lower story are taken in and out. You will perceive that a pen one hundred feet long and thirty-four wide, with three in a pen, will furnish ample accommodations for one hundred and twenty hogs. A passage way for the feeder is made from the cooking room to the passage way in the lower story.

Very respectfully, yours,
N. E. Farmer. E. PHINNEY.

* Dormitory 5 ft. sqr. † Eating apartment 5 ft. sqr.

To the Editor of the Farmers' Cabinet.

Sir,—In reply to your correspondent, Mrs. Jenkinson, page 52 of the Cabinet, I beg to say, I have no doubt the use of lead pans for the dairy is highly objectionable, particularly, as she intimates, "in the hands of filthy and careless persons." In many places, however, zinc pans have been substituted with perfect success; and an addition has been made to them which facilitates the operations of the dairy, and seems to embrace all that can be desired in that department of rural economy. For the information of those of your readers, who have not seen or heard of this invention, I beg to offer, for insertion in your valuable pages, a particular account of their structure, together with the mode of using them, and remarks on their introduction to general use. One of these pans has been made in this country, and is now in use; the result of the experiment might form the subject of a future communication to the Cabinet. Your Subscriber, J. P.

September 20, 1839.

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Double Milk Pans,

For the use of large or small Dairies.

These pans, made of zinc, prepared after a peculiar process, possess many and great advantages over those in general use, and are recommended as far superior to any ever

adopted, for the purpose of raising the cream and facilitating the labors of the dairy.

1. They are peculiarly strong in their construction; not liable to get out of order; and most convenient in their form, and take but little room in the milk house.

2. They communicate no unpleasant flavor to the milk; are most easily kept clean by means of hot water, a brush and soap; requiring not a tenth part of the labor necessary to keep others sweet, and are suitable for every season and situation.

3. They are made of different sizes to suit large or small dairies, the largest being sufficiently capacious to contain the milk of half a dozen cows, it having been found advantageous, both to the quantity and quality of the butter, to mix together the milk of different cows at the time of setting it to cream.

4. At the time of skimming, the labor of collecting the cream from these pans not being a twentieth part of that necessary where pans of any other construction are used, while *all* the cream and *none* of the milk is obtained, with the greatest precision and without trouble.

5. The business of churning is much facilitated, the butter coming very quickly; and this takes place in a regular way, uninfluenced by seasons or circumstances.

6. The butter is uniform in quality, and of a marrowy consistence; never hard and flinty in winter, and in summer it only requires the usual care to preserve it firm and cool; while it is remarkable in the property of keeping sweet for any reasonable length of time, and being of a superior color to that made from the same cream in the usual way. A calculation has been made, that a pound of butter can be made per week from each cow more by this process, than by any other.

DESCRIPTION OF THE PANS, AND MODE OF USING THEM.

Each pan is placed on a strong wooden frame of the most convenient height; is dish-shaped, either square or oblong; the largest being about five feet six inches long by thirty inches wide: smaller pans can be made to order. They are *double*, the pan for the milk being firmly joined to another of the same shape, but somewhat larger, which forms a casing around it; the space between them being from two to three inches deep, is for the purpose of containing hot water, thus forming a bath around the milk. In the centre of the upper or milk pan, which dips regularly towards the middle, is a fine strainer; and to this is attached a short pipe, which descends through the bottom of the casing pan, of which, however, it is independent; it is furnished with a brass tap, its purpose being to let off the milk contained in the upper pan, at the end of the process. The casing, or bottom pan, is furnished with two pipes; one perforates a corner of the upper or milk pan, and through this, boiling water is poured by means of a funnel at the proper time, so as completely to fill the space between the pans—thus, as has been said, forming a hot bath around the milk. By the other pipe, furnished also with a tap, the water is let off at the proper season. Thus the pans, although firmly joined together, are independent of each other, the union, however, strengthening each in a remarkable manner.

At the time of milking, the taps are closed, and the upper pan is to be filled with the milk as it comes from the cows; after standing twelve hours, the tap is partially unclosed, and a small portion of the milk is drawn away; this, on examination, will be found to contain the impurities of the milk, which have subsided; (the peculiar formation of the pan having induced the sediment to form exactly on the strainer) and this economy is of much consequence to the quality of the butter. The casing, or bottom pan, is then to be filled with *boiling* water,* by means of the pipe which perforates the upper pan, which is then to be closed; and the water is permitted to stand twelve hours, when it is to be drawn off by the tap below, opening first the pipe above, to give vent. After this, the milk is to be drawn off, by placing a vessel to receive it, and opening the tap; every particle of the cream having risen to the surface.—Thus the milk will be found to drain away, leaving the cream in the pan, from whence it can be removed with the greatest ease and facility; very little practice in this part of the process will make perfect. As soon, however, as the cream is removed, the pan should be well washed with hot water and soap, which will neutralize any acidity there might be; and a careful rincing after, fits it for an immediate re-filling without removal or labor.

The cream might now be transferred to the churn, where it will soon become butter of the finest quality; or it might be "brought" by merely stirring with the hand in a pan, after the Devonshire method; either way, which is thought most convenient.

REMARKS.

This is a new, and most interesting and convenient process of butter making, the advantages of which can scarcely be sufficiently appreciated, but which cannot be fully carried out without the use of double pans. Every housekeeper is fully aware of the advantage of scalding or "cooking" the milk which

* The heat of the water which is first poured into the pan will be considerably reduced, by coming in contact with the cold pans; this therefore should be let off after standing some time, and be replaced by other, boiling hot.

is to be kept until the following day, and by the means above described, this process is conducted in the simplest manner, without labor or inconvenience, and with the greatest precision, the mode being an improvement on that which is practised in Devonshire, which is, to take every pan of milk to a hot plate at the end of twelve hours, where it must remain "a given time," to be ascertained by unwearied watchfulness, and then be taken back to its former place; after which, however, it is often found to have acquired a burnt or smoky flavor, from over-cooking, sufficient to spoil the quality of the butter; while milk that has been submitted to the heat of boiling water, will be found to have deposited every particle of cream on the surface, without acquiring any bad flavor; and this is equally the case with the milk of those cows which, without this process, is found never to separate its cream; and to this circumstance is to be attributed, in a great measure, the extra quantity of butter which is obtained by this management. The cream remains a much longer time sweet, and acquires an aptitude to "butter," which is truly surprising, rendering unnecessary that incessant beating into foam for twenty-four hours, as every dairyman has wofully experienced, by which the butter is rendered hot and rancid, even before it is taken from the churn.

But perhaps, one of the greatest and most perceptible advantages of these pans is, the owner of the dairy is no longer at the mercy of careless and unprincipled servants, who, in the hurry of skimming, are often known to sacrifice a great portion of the cream to the hog-tub, a loss which soon amounts to a large consideration: here, these servants have only to set the milk pans running, and they will skim themselves, requiring only a small portion of care to stop them when the milk has passed away: while another very great injury is prevented, which arises from the *opposite vice*—that of over-skimming, by which the butter is deteriorated by the stale milk which is thus taken and mixed with the cream, for if the strainer be of the proper size and fineness, the milk will *all* pass, and the cream will *all* remain.

To a nice observer, however, the means of drawing off the impurities of the milk at the bottom of the pan before adding the boiling water, will not be lightly considered; a close examination of this portion of the milk will convince any one, by smell as well as taste, that "nothing is so disgusting as animal putricity." The skim-milk from this process is sweet, and very superior for the making of cheese.

Never pretend to tell what you do not know.

Remarks on Harvesting Corn.

BY REV. H. COLMAN.

The season for harvesting our corn crops will soon be upon us. The extremely hot weather which we have had for a fortnight past, prior to the late storm, has placed much of the crop out of the reach of frost; and the yield almost universally promises to be abundant. This may be pronounced the great crop of New-England. If we have corn enough, we shall have beef, pork, and poultry enough. We do not believe there is any grain which, considered in all its aspects and uses, is so valuable.

There are several modes of managing the crop, the fodder and the grain; but they are not equally eligible.

The first is to top the stalks after the ear has become perfectly formed and slightly glazed. There is great danger of performing this operation too early. When done before the corn is generally hardened, the exact experiments of William Clark, Esq., of Northampton; of John Lorain, of Pennsylvania, and others, have demonstrated that the loss upon the crop may amount to a quarter or a fifth of what the crop would otherwise be. The topping of the stalks is, we believe, an unnecessary, useless, and often a pernicious labor, and therefore not to be advised.

The second method is to leave the crop untouched until it is perfectly ripened, and then to cut it up at bottom and carry it all into the barn and husk it. Some gather it in the field and then cut the fodder. In either case, the corn being thus left, is always exposed to suffer from frost before it is perfectly ripened; and the fodder, it is believed, loses much of its succulence and nutriment.

The third process is, after the ear is glazed and the corn has passed beyond the boiling or roasting state, to cut it up at bottom and let it dry in the shock. In this way it is early taken out of the way of the frost; the corn if properly managed ripens perfectly and weighs more by the bushel than if perfectly dried, as by the second method described, and the corn fodder is dried with all its juices retained in it; it has a richness and freshness which render it particularly palatable to cattle, and as nutritious for beef or milk stock as any dry feed which can be given to them. This operation should be executed with care. Let a hill occasionally be left standing for a support of the shock against the wind. Bring as many armfuls of the corn cut up as are sufficient to make a good sized shock around the standing hill—set the bottoms well out and tie them all at the top with a wisp of straw, turning the head down. But do not first, as is often practised, tie the corn in small bundles. In this way the corn and fodder will

cure perfectly. When it is time to carry it in, slip a knife under and cut the standing hill; pitch the whole shock into the cart; and being loose and easily handled, by bringing the top of the shock into your lap, it will be easily husked. A great deal of trouble will be saved, in this way. Do not, as is often done, carry out your corn and make your shocks upon the grass land, as in this case the air will not circulate freely under the shock, and therefore neither the corn nor the fodder will dry perfectly. The most intelligent farmers in the state estimate generally the value of the corn fodder on an acre of corn yielding forty bushels to the acre, well cured and saved, as equivalent for the feeding of any stock, to a ton of English hay. Not a few rate it even higher than this.—*New-England Farmer.*

On the Manufacture of Sugar from the Beet.

To the Editor of the Farmers' Cabinet.

Sir,—The time has at length arrived for the resuscitation of the Beet Sugar cause, and it only requires the energies of some strong-minded individual to call it back to life and vigor—not that it has ever shown a *symptom* of decay—it has only *slumbered*, to recover from the effects of that over-excitement, which it experienced on its first introduction to public notice; and a period of three years has been requisite to enable it to recover its natural state of equilibrium. It has now only to hope that it might go forth on its own merits, under the management of some one competent to draw forth its energies; with a capital sufficient to sustain it, and time allowed to carry out the operations, beginning with the cultivation of the root, and ending with the manufacture of the sugar therefrom. The way is plain, the success certain; it only deprecates over-nursing, and a too hasty expectation of final results; courting, in the mean time, the closest scrutiny, and rigid examination on scientific principles.

The time which has elapsed, has afforded ample opportunities for experiments, and these have strengthened the hypothesis, that sugar, equal to that from the cane, can be made from the beet, not only to profit, but with manifest advantage to the agriculture and husbandry of the country; as also, to the system of feeding cattle and sheep for slaughter; while, for the dairy, it is universally admitted that the sugar beet is a crop, superior to every other, both as to quantity and quality; many of the crops, the present year, averaging thirty tons per acre; the value being superior to corn, as food for cows.

As this is the proper season to commence operations in earnest, permit me to sketch a plan, which only requires to be acted upon with vigor, to prove a source of great profit, to those who have sufficient capital to invest in the undertaking.

1. Not less than from one to three hundred acres of beets to be cultivated the next season, in a light and suitable soil near the city, from whence manure can be obtained in quantity, with short carriage. The land should immediately be ploughed very deep, and left so to lie until the spring; and during winter, the dung should be carted to the land, and be placed in large heaps, preparatory for use in the spring; and as soon as the season will permit, the land should again be ploughed, and prepared for an early spring sowing, March and April being the best months; and while growing, the crop should be well attended and kept clean.

2. During the winter and next summer, there will be time sufficient for the preparation of machinery, and the erection of suitable buildings, both for the sugar house and fattening establishments, and also for fixing the different apparatus, so as to be in the most perfect order by early autumn, when the crushing might be commenced in September, and be continued through the winter: and as soon as the land is cleared of the crop, it should be ploughed very deep and be thrown into high ridges, with plenty of water furrows; and on the same land, beets should again be sown in the spring, after proper stirring and working. This system might be pursued for any length of time, with the certainty of obtaining larger crops, with one half the trouble of cleaning, for the beet is a meliorating crop, and may be sown many years in succession on the same soil, with less and less labor in the cultivation; the land having become clear of weeds, and a greater depth of staple being added to it, by deep ploughing before winter. In the report, published by the "Beet Sugar Society of Philadelphia," there is an account of a field, which was preparing for a sixteenth crop of beets in succession; several of these crops had been grown for seed, but for these *only* had manure been applied; and yet, the fertility of that field had ever been on the increase.

3. I would strenuously urge, that the business be taken up as one of *profit and loss*, and not as an experiment; and that it be entered upon with resources, such as are considered sufficient for establishing any other concern of equal magnitude. Every one knows and admits, that the making of sugar is a business that can never fail—that must be carried on—the appetite for it is still increasing, "growing with our growth and strengthening with our strength," and the consumption will keep pace with the production, until the end of time, for every one is a consumer of sugar, in some shape or other;

and, generally speaking, it is profitable to all concerned in the fabrication—in the hands of competent persons, decidedly so.

The cultivation of the beet, and the rearing and fattening of stock, are legitimate objects connected with the sugar house; and *united*, they form a suitable employment for the man of cultivated mind, whose education and pursuits have unfitted him for "dashing into the far west, with his broad-axe upon his shoulder," or the daily toil of growing his vegetables and exposing them for sale in the market in his own wagon. Sugar growing, then, is destined to become a resource to those who, from reading, study and observation, have become "enamoured of rural affairs;" by it is embraced all that has ever "charmed the eye, the ear, or the heart of the modern agriculturist;"—here, he indulges his taste for machinery, chemistry and the arts, and fabricates a tropical luxury in his own mild and healthful region, by means, too, which do not deprive him of his nightly slumbers, or inflict upon him the pain of urging his *servants* to exertions, endangering health and even life, lest a change of season should mar his prospects for a whole year.

Is he fond of rearing fine stock, and particularly that noblest of all animals, the horse? If I could take him to the magnificent establishment of Mons. Hamoir, near Valenciennes, in the heart of the Sugar District of France, and introduce him to that generous family within the house, and to those perfect and beautiful specimens in the stable and barn-yard,—where I saw thirty oxen, of the Durham breed, fattening on the refuse of the sugar house, and the dairy cows of the same breed feeding on the same—fifty plough horses in one stable, of the largest Flemish breed; seven saddle and carriage horses, reared from the mares of these plough teams, by a cross with the stout English blood horse; five three year old colts, for the carriage, and hunters, of the same breed; and four of one year old—all beautiful in their form, and of superlative strength, and all feeding on the refuse of the sugar-house,—I am sure he would be, as I was, *enamoured with the beet sugar business!* while to the philanthropist, in such a country as France, as Mons. H. observed, the reflection that "the introduction of the growth of the beet root has added immeasurably to the moral and physical strength of the country," must be grateful indeed! Here I saw one hundred men and women digging the land for the cultivation of the beet, with fifty horses ploughing in the same field, for the same purpose; but I never saw a new house going up in France, except in the neighborhood of the beet sugar establishments! I remember, while walking over his fields with Mons. Hamoir, that he left me for an instant, to step into a fine piece of clover, to pull up a tall weed which he saw growing there, apologising for the weedy state of the land, as he had not yet time to thoroughly clean it, being busily engaged in beet sowing!—is it any wonder, that he obtained an extra price for his sugar, at the refinery, amounting to one dollar and forty cents per hundred pounds, above his neighbors?

The conjecture, that larger crops, and more rich in saccharine, can be grown in this country than in France, has been fully verified; but even there, the yield in both has been surprising, in the estimation, too, of a large sugar planter at New Orleans, who observed, "if you will insure me seven per cent. of sugar from the Beet, I will cultivate them, and make a profit of 150,000 a year," and I cannot resist the opportunity, to mention a conversation which I had with the late lamented Mr. George Walker, of Holmesburg, who said, distinctly, "There are three things which I can promise you in this country—larger crops, more rich in saccharine, and a ready sale for all the sugar you can make;" and I am confident, that the quantity and quality of the crop is increased, by continued cultivation; the land becoming more suitable to its growth by deep ploughing, and thorough cleaning; a deep, clean, and well pulverized soil being essential to both.

In the report above mentioned, the average yield of sugar &c. per acre is as follows, estimating the crop at 40,000 lbs. per acre, and six per cent. of sugar.

Sugar, 1st and 2d quality,.....	2400 lbs.
Melasses, 2 per cent.,.....	800
Cakes, 15 per cent.,.....	6000
	9200 lbs. per acre.

But at *nine* per cent. of sugar, which is obtained, and a crop of 60,000—the quantity which *can be raised* in this country—the account will stand thus:—

Sugar, 9 per cent.,.....	5,400 lbs.
Melasses, 2 per cent., ...	1,200
Cakes, 15 per cent.,.....	9,000
	15,600 lbs. per acre.

Now, compare this yield with that from the sugar cane, even in some parts of the West Indies, and the difference will appear striking indeed. The following account is copied from Major Moody's Report of the estimate of the produce and expenses of a sugar estate in Tortola, which may be relied upon, he having been appointed, by the court of chancery, receiver, to take charge of the plantation.

Sugar grounds,—135 acres.*
Yield of sugar, 80 hhds. @ 1,500 lbs.—120,000 lbs.—888 lbs. per acre.
Melasses distilled—4400 gallons of rum.
Negroes employed—83.

* The produce on 135 acres of beets, at 60,000 lbs.

This was in the island of Tortola—the report contains another account, of a crop in the well cultivated island of Barbadoes.

Sugar grounds.—66 acres.
Yield of sugar, 116 hhds. @ 1600 lbs.—185,600 lbs.—2812 lbs. per acre.
Melasses distilled—5216 gallons of rum.
Negroes employed—120, and 30 children.

These estimates were published, to show the difference between productive and unproductive estates; the second pays nearly nine per cent. profit upon capital invested, the first paying 2½ per cent. only; the difference in favor of good management being 6½ per cent. profit. But compare even No. 2 with the best crops of beet, united to the best management, and the difference is very greatly in favor of the latter. Melasses given to the cattle, horses, sheep and hogs, will pay a profit five times as great as that to be obtained from rum in the West Indies; rendering even the refuse of the crops, when cut up and soaked for twenty-four hours, the most nutritious and palatable food. But at the *lowest calculation*, the profit upon the culture and manufacture of the beet is most ample; while the advantages to the cause of agriculture, husbandry, and the *mechanical arts* of the country, are *incalculable*.

It is not, however, my intention to recommend the manufacture of sugar from the beet to the agricultural part of the community generally—this is neither expedient or desirable. In the first place, the necessary outlay for improved machinery, without which no good results can be obtained, would operate as an interdiction, in very many instances; while the employment would be foreign to the habits and feelings of such persons generally, and would lead away their attention from the more important and legitimate objects of their calling. But I would recommend every farmer to cultivate the sugar beet as winter food for animals of every description; and should they at any time have more than they require for this purpose, a ready sale might be made at the sugar-houses, at a price which would often bring about three times the value of the land upon which they grew. The real value of this inestimable crop will not be fully known, until it is cultivated to the full extent of the wants of the country. The system of fattening cattle and sheep *in the winter*, is attended with great profit; they are purchased lean, at that part of the year when they are cheapest, in consequence of the approach of winter; and a friend has just reminded me of a mode, which he once adopted in the expenditure of a crop of sugar beets, which proved very profitable. He purchased cows and calves, at the commencement of the season for taking up the crop, which he fed in stalls, in the first instance with the leaves or tops, as they were cut off, permitting the calves to take all the milk; after the tops were expended, he commenced on the roots, allowing each cow two oil cakes a day. In the spring, the calves were sold to the butcher, very large and fat, and about six months old, at astonishing prices: the cows were then permitted to go dry, and in six weeks they were also sold fat, for large prices, at a season when beef was scarce and dear. One little cow, which he purchased for seventeen dollars, brought a calf which he sold for forty dollars, after which the cow was fattened the same season. This plan, he conceived, paid him better than any other of his labors; and, which was of immense importance, furnished a mountain of the richest manure, for future crops, which would have been dropped and dissipated in the fields, if these cattle had been pasture-fed in the summer. He remarked, "Sugar beets against all the world, for the fattening of cattle."

There is yet another mode of expending the sugar beet, which is not generally known; and although it might be considered by some persons as liable to objection, it may be substituted for corn and grain in the distillery, with the greatest advantage, rendering a spirit incomparably more pure and wholesome, and taking the place of enormous quantities of these articles, which are now distilled, to be expended in the *destruction of life*, instead of the *support* of it. I was present at the crushing of the first beet root in the island of Jersey, for the purpose of making *French brandy:* the establishment was conducted by men from the wine countries in France, and the spirit was exported to England, where it commanded the best prices in the market, without a suspicion that it had been drawn from the beet! its character being equal to the best old French brandies; and the business was a most lucrative one, until it was interdicted by an order in council from the British government—just as it is said they now prevent the manufacture of sugar from the beet in England—they have clashing interests, and cannot afford to allow their people to act as they think best for their own interests.

It is said, an extensive establishment is going up in an Eastern state, for the purpose of manufacturing sugar from the Beet, and that an agent has been despatched to France, to examine into the present state of the business, and to construct machinery for the same

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per acre, and a yield of nine per cent. of sugar, would be—

Roots,—8,100,000 lbs.	lbs.
Sugar,	729,000
Melasses,	162,000
Cakes	1,215,000
	2,106,000

purpose in this country. Success is certain—but the greatest advantage to be obtained by such a step is, this person will see the process, conducted with the utmost facility, without difficulty or fear for the result; and to a profit which will, when taken together, astonish him: the *only* fear is, that a sufficient quantity of beets will not be obtained the present year, for the full employment of the works; and just as they are about to test the final results, their operations might be paralyzed, and the business be again doomed to abeyance. This consideration urges me again to press upon the *consideration* of those, who intend seriously to go into the concern, the expediency of not attempting more the coming season, than to grow very large quantities of roots, and erect a perfect establishment, for conducting the operations with improved machinery—a work, quite sufficient to occupy the time until next September, and fully too.

Other establishments are preparing to operate on a few acres of roots only—these are too much like experiments, and will be deprecated by all who have the ability to see that time and capital only, are required to insure the most perfect success. Would any one think, for a moment, of going into the cultivation of the cane, with the intention of establishing a sugar house, with any, but very ample means, and with time sufficient to construct and erect the necessary buildings, machinery and apparatus? Just so ought it to be with the beet sugar business—a business of far more real importance in its results, and with equal magnitude of enterprise; for a plantation of four hundred acres might be made to produce twenty-four millions of pounds of roots; two millions, one hundred and sixty thousand pounds of sugar—upwards of fourteen hundred hogsheads—forty-eight thousand pounds of melasses, and three millions eight hundred and forty thousand pounds of cakes—the two last articles, sufficient to fatten about eight thousand sheep!—a concern extensive enough to employ many hands, and of such importance as to demand a careful and circumspect distribution of the means adopted to call forth all its energies.

On the advantage of importing machinery from France, I confess I am somewhat skeptical—while engaged on my mission to that country, as agent to the "Beet Sugar Society of Philadelphia," it was my business to examine all the establishments which lay in my route, and to which I had the most unlimited means of access, by letters of introduction, furnished by some of the first men of this country and of England; and I am sure my excellent and intelligent friends in France will permit me to say—and I do it not in disparagement—their machinery is far inferior to that with which I have been engaged, since the time that I returned from that mission, an event which was the means of an introduction to Jos. S. Lovering, Esq., a gentleman to whose generous and unreserved communications in the business of refining, I am indebted for information and experience of the highest order, and which I could not elsewhere have obtained; and which enables me to form an opinion on the subject of machinery, which is, I confess, unfavorable to that at present in use in France. I repeat, however, the stimulus which will accrue to the undertaking, from the circumstance of their agent *seeing and feeling* the facility with which sugar is made from the beet, will be of the greatest importance; insuring to it—if it be commenced with a sufficient capital, with an abundant supply of roots, and perfect machinery—the most *perfect success.*

From three years experience, in a situation unexampled in the means of information, and where my attention has been led to the consideration of improved machinery for the manufacture of beet sugar, as well as for the cultivation of the crop, I have been enabled to construct models of the different apparatus necessary, which will, I conceive, facilitate the business, and cost much less in the fabrication, than do those in general use, where the improved modes of working have been adopted—an important object in a country where the high price of machinery compels purchasers to go to foreign countries for their supplies. The models are

1. A set of three Harrows, on a new construction.
2. A Drill, for sowing the beet and other seeds.
3. A Barrow Hoe, for cleaning the crops.
4. A Hand Hoe, French pattern.
5. A Root Cutter.
6. A Self-Skimming Double Milk Pan.

FOR THE SUGAR HOUSE.

7. A Rasp, for crushing roots.
8. Clais and cloths for pressing.
9. A Stand and Bags for sediment and scums.
10. A Press, on a most convenient principle.
11. A pair of Defecating Pans, new construction.
12. French Tap, for drawing off clear.
13. Apparatus for washing animal carbon.
14. Do. for drying and re-calcining do.
15. Mechanical Filter, new construction.
16. Chemical Filter.
17. Steam Generator, Boiling Pan, and Evaporator, united.
18. Machine for evaporating from 7° to 21°.
19. Steam Generator, and Boiling Pan, united.
20. Smoke-consuming fire places.
21. A Beet cutter, for the dessicating process.

*To a person of capital and enterprise,

* The business of sugar making from the beet—unlike many other businesses—may be taken up and pursued to the end; or if difficulties arise, so as to prevent the *accomplishment* of the undertaking, all is not lost—in many cases nothing need be lost—for if the possibility of such an event be kept in view at the time of the erection of the buildings, they might be made to take a form which will permit them to be turned to other purposes; and a great portion of them will be required for the housing and feeding of the cattle and sheep with the crops, with space for steaming

wishing to enter business, and casting about for a suitable employment, I would say, where will you find one more healthy, interesting, or profitable? An untrodden field is open before you, with no fear of too many competitors—no cause for alarm, lest your neighbor, whose place of business might be better situated than your own, might draw away your customers, or that the adjoining premises might be taken by some one, whose interests will clash with yours—no dread, that the present fashions might change, and leave you with a heavy stock on your hands, or that a new one might spring up, and call for fresh purchases, which cannot, perhaps, be made without sacrificing at auction the profits of years. In the beet sugar business, every neighbor is a friend; and I have never seen the observation verified in a more striking manner, than amongst those engaged in that employment in France; they form a distinct class of agriculturists; many among them are men of the highest attainments, and in the service of the government, and of the first standing in society. The success which now attends the manufacture of sugar in France, where considerably more than half the supply of the whole country is made from the beet, is to be attributed to the untiring perseverance of the present Mons. Crespel Delisse, of Arras, and Marshal Marmont, Duke of Ragusa—but for these noble and scientific men, the business would have sunk; they, however, determined to pursue it, through evil and through good report; and the result has justified their highest expectations. To the former of these gentlemen, I owe a debt of gratitute, for the kind and liberal manner in which he instructed me in his mode of working, at his fine establishment at Arras; a mode which was considered, by a committee sent from Prussia to examine the different methods pursued throughout the sugar districts, superior to all others, and by which he has accumulated large property.

The great diversity of employments, connected with the business of *sugar growing*, renders it very delightful—first, there is the agriculturist, with his improved machinery, ploughs, harrows, scufflers, cultivators, drills, &c., vieing with his neighbors, *who* shall grow the largest and the cleanest crops—then the dairy-man, with his improved Durhams, competing with *all the world* for quantity and quality of milk, and fat veal and rich butter—then the cattle feeder, with oxen of seventy score; and the feeder of sheep, and *the maker of house lamb*, without the risk of rot or scab; with his flock under his eye, and managed with the greatest ease and regularity—and his stud of horses and brood mares, "beautiful to look upon!" and lastly, the sugar house, with its machinery and well appointed apparatus, as true as clock work; calling into requisition his chemical science, as well as his mechanical skill—and all occupied in the preparation of an article for which there is as regular a demand as for bread, and which will always obtain as ready a sale in the market, maugre all the changes of fashion, by which many traders might be prostrated—and all conducted without hurry or confusion—no fear lest a premature frost might put a period to his labors before half the work is done (as is often the case in the cane districts in this country) or, that the same evil might assail his next spring crops, blasting at once his hopes for the whole year—for of all the crops that are cultivated, perhaps the sugar beet is the most secure in this respect, as the time of sowing might be delayed, if the season is unpropitious, and the time of harvesting be expedited in bad seasons, without essential injury to the crop, or, with less evil than would accrue to any other.

At the same time, as has already been observed, the business of sugar making ought not to be taken up by agriculturists generally: there must be many consumers to one producer, or there will be no purchasers—and if this law of reason were observed and reflected upon, there would be fewer cases of *mania*. All, however, can indulge in the cultivation of the beet, but it is those only of capital and enterprise, who should engage in the manufacture of sugar therefrom; and not even then, until due provision has been made, and the business placed in the hands of some person who is competent to conduct the different operations to their final results—then it must succeed, and better perhaps in this country than in any other in the world.

* The puerile idea, so sedulously propagated at the first introduction of the sugar beet to notice, that "every occupier of a six-

their food and other purposes, as also for protecting the roots for winter feeding.

I once knew a gentleman who, in erecting a long row of warehouses, placed blank windows and doors in every story, and arranged the internal parts so that, in the event of the failure of the business in which at that time he was engaged, they might readily be converted into dwelling houses—the result justified his prudence and foresight, for a war put an end to his importations; but the income which he now derives from the rents of those houses makes ample amends for his disappointment—just so might it be with the culture of the beet for the purpose of manufacturing sugar; if the *event* be relinquished, the expending of the root in the rearing and fattening of stock, will prove a source of ample profit and pleasure to all who are engaged in it. J. P.

* I remember a plain Farmer called upon me and said, "I want, Mister, to make my own sugar—people talk about the good of the country, and this and that, all which I don't pretend to know any thing about—*but I want to make sugar*,—so if you'll come up and put us in the way on't, I'll pay you for't. I got a quarter acre of fine beets, and my wife got plenty of pots and kettles and pans and buckets—as many I guess as you'll want; but if you want any thing else, why you can bring it up with you: *I want to make sugar*."—J. P.

teenth part of an acre of land could grow his own sugar and kill his own mutton," has brought the subject into utter contempt; and it will not be able to rise to the consideration which it merits, until it is taken up in the way here recommended. What man *has* done, man *may* do—and it will not be readily believed that what is done in France, not only without difficulty but with the greatest facility, cannot be done in this country, where nature and the arts have done so much to distinguish it above all others.

JAMES PEDDER.

Philadelphia, Sept. 20, 1839.

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The above, in manuscript, was submitted to JOSEPH S. LOVERING, Esq., for his approval. It was returned with the following testimonial, which, *from such a source*, speaks volumes in favor of the enterprize.

Philadelphia, Sept. 21, 1839.

Mr. JAMES PEDDER:

Dear Sir,—I have read your paper on the subject of beet sugar with pleasure, and agree with you in opinion, that an establishment, such as you contemplate, properly conducted, would not only prove a highly interesting one to all connected with it, but would also yield an abundant return to the capitalist; and had I not already enough for one man to attend to, I should rejoice to be among the first to enter the field.

As regards the mention of my name in your paper, the flattering terms in which you have placed it there, forbid me to object; although, as a general rule, I am averse to having my name in public print in any shape.

I am, dear sir, your's truly,

JOSEPH S. LOVERING.

Virginia Thorn Hedge.

To the Editor of the Farmers' Cabinet.

The enclosed communication from D. P. SCHNELLER, of Bethlehem, on a subject of much importance to the farming interest, may be considered sufficiently interesting for general perusal. The hedge referred to, is so far superior to the ordinary attempts at live-fencing, that the intelligent cultivator, at my request, drew up a particular description of his method of cultivation.

It is now, after having been planted about seven years, of an average and nearly uniform height of six feet, and is an effectual protection to a flourishing vineyard, of which there are several in the vicinity of Bethlehem.

It is mentioned in remark No. 4, by D. P SCHNELLER, that he filled a small trench with lime on each side of the hedge, to protect it from the mice. It may be considered certain, that this lime has operated an important effect not only in protecting the hedge from various descriptions of depredators—but, being taken up into the circulation, has added materially to the health and vigor of the plants.

With great regard, I remain,

Your friend,

MORRIS LONGSTRETH.

(Valley Green,) Montgomery co., Pa.

—

Bethlehem, Aug. 6, 1839.

MORRIS LONGSTRETH, ESQ.

SIR,—In answer to your request for information as to the method of planting and training my live hedge, I have to state, that the first preparation was a trench made in the fall of 1831—one foot deep, and one foot wide, as far as it was intended to plant the hedge; the upper and lower earth was thrown together on one side. After the trench was finished, the earth was thrown in again, mixing it as well as possible, and adding some well rotted manure; thus it remained till March, 1832. In December, 1831, fifteen hundred quicks, or plants, of the "*Crasægus populifolia*, maple leaved Washington or Virginia thorn," were procured from the Messrs. LANDRETH, of Philadelphia, for which they charged us six dollars and twenty-five cents, though they now advertise them at five dollars per thousand in their catalogue or plants. These were kept in a cellar till March, 1832, when they were planted. Before planting they were prepared as follows: Every plant was trimmed of every side root, and the main roots were cut off in the length of six inches, and the top of two inches.—They were then planted at the distance of eight inches one from the other in the rows with a dibble, that is, with a piece of pointed wood, as cabbage plants are usually planted. They were plaited the first time in the spring of 1834, which might have been done a year sooner, if the field mice had not done so much damage by gnawing them off in the ground, making gaps and forcing me to plant young plants for two successive years, before I was able to plait them the first time. The first plaiting is to be done as close to the ground as possible. They will throw out a number of shoots close together along the whole line; these are to be headed down the next spring in the following manner; the strongest shoots are to be left about fifteen inches long; the next about one-third shorter, and the weakest the shortest; the reason of heading

down the shoots of different heights is, that the hedge may be close and thick between the different plaitings. I have taken notice that they seldom throw out shoots at the sides of the stems, but mostly at the top; therefore if all the shoots were headed down of an equal height, the hedge would not be so close between the different plaitings, but by heading them down at different heights, it will be full and close from the bottom to the top.—Before the second and every other plaiting, the strong side shoots are cut off to three or four inches, and if there should be too many upright strong shoots for plaiting, some of them are cut out, which makes the plaiting easier. After the second and every other plaiting the sides of the hedge are trimmed with a pair of garden shears, but only in the spring; after the hedge is finished, it is to be sheared twice a year, that is, in spring and summer.

REMARKS.

1. I call this method the American method, as I have neither heard nor read of its being practised elsewhere.

2. What I call plaiting, is twisting the shoots together in a continuous line. Where they do not keep well together, they should be tied with willows. The longer the shoots are, the easier they are plaited.

3. The person that plaits the hedge ought to have a pair of good thick leather gloves or mittens, and must also take care not to bend the shoots too short, as they would be apt to break.

4. To protect the plants against the mice, different methods were tried—first, I made a trench on each side of the hedge about four inches deep, and filled it with unslacked lime—then pieces of woollen rags were dipped in turpentine and put in their holes—and thirdly, I made small balls of dough, made up of flour mixed with arsenic and sugar, and rolled in lard, which were strewed about the hedge before winter. Which of the three methods preserved the hedge most I know not; at all events after some years it grew too strong for the mice.

5. If, notwithstanding all care, holes or gaps should happen between the plaitings, these may be closed up with side shoots, in which case the strongest should be left in such places, and not cut off before plaiting.

6. The hedge does not grow well under the shade of large trees.

7. I am inclined to think that a hedge planted and trained in this way may be finished in six or eight years.

I remain, most respectfully,

Your ob't servant,

David Peter Schneller.

Mould for Printing Butter.

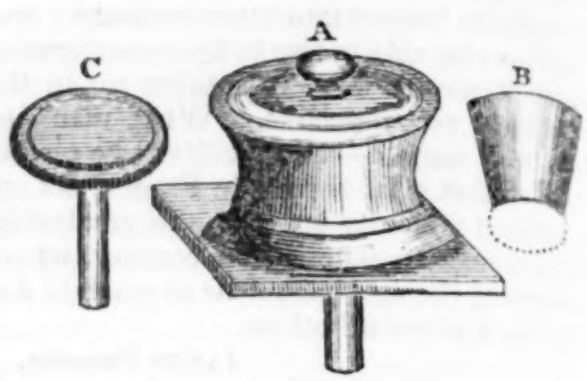

Fig. 14.

To the Editor of the Farmers' Cabinet.

Sir,—I herewith send you for examination, an article, which, I think, should be in the hands of every farmer—certainly of every dairyman—and as I notice a communication in your last number (August) suggesting the propriety of making the office of the Farmers' Cabinet a "*Depository of Models and Improved Implements*," *&c.*, I would most respectfully tender the small article above figured. It is called a "Butter Mould or Stamper"—is very simple in construction, and can be had for a mere trifle. It is not generally known or manufactured, but any mechanic can easily make one. It will last a long time, and needs no repair.

Description.—The butter stamp consists of a small round box, fastened to a square piece of deal, through the bottom of which is a hole for the introduction of the handle of a second box, which fits within the first. The second box is similar to the first, except it is detached from the bottom, and consists of three pieces of wood hollowed out and made to shut close to each other. When the handle with the bottom attached is drawn down, the pieces fall into a grove running around the bottom of the second box. The butter is weighed and placed in the box, the handle being down. The stamp is then placed on the top of the butter, and forced down hard, giving it the proper shape and print—after which the butter is turned out complete by forcing the bottom up, by means of the handle seen in the figure, which causes the second box to fall apart, as it were, and thus releases the butter. This is a very expeditious way of printing and moulding butter.

Fig. A represents the article with the butter in it—the stamp on and all ready to force out. B the part or one of the sides of the three sided inner box. C the bottom with handle. W.

New Castle co., Del., Sept. 21, 1839.

This article may be obtained at No. 87, North Second street.

Reply to an Address to Jersey Farmers.

To the Editor of the Farmers' Cabinet.

Sir,—Although I am but a plain man, and get my bread by *more* than the sweat of my brow, yet, as I do my duty in keeping down the weeds *and reading the Cabinet*, I may, I hope, be allowed to give an opinion on a learned dissertation which appears at page 57 of the Cabinet, as copied from the Ledger, in which the writer has displayed great solicitude for the Jersey Farmers, and has taken much pains to bring them acquainted with a manufacture, which he considers well adapted to fill up their "odd times," as Mrs. Jenkinson says. Now, there is not an article in the Cabinet which I do not repeatedly read over before the next number arrives, but after perusing the paper above mentioned half a dozen times, I must confess I do not yet quite understand it—in consequence, of course, of my own short sightedness—but so it is.

In the first place, he tells us, the "resources for manure in our state are limited." Now I should suppose it rather the reverse, for, lying, as he remarks, within reach of two of the largest and best markets in the union—and in this respect he has justly called us "favored"—we have the means of obtaining from thence inexhaustible supplies of manure, in many instances as back carriage, and in others, by water conveyance, to any extent. But it seems to me a paradox, to hear that "our warm, open, and in many places sandy soils, require rather active manure." Why, I should say, these manures are expressly calculated for soils of an opposite nature!

He then goes on to press upon us "the study of the sciences," and concludes the paragraph, by reiterating the request, that we would "make ourselves acquainted with the sciences." Now all this is, I dare say, according to the book, and very good; but if he were himself a farmer, he would see that this is, to us *hard workers*, quite out of place.—He then tells us, that it is impossible to procure as much *wood ash*, "which we know contains potash," as would manure a large portion of land, and therefore recommends to our notice, the use of *soda*,—"an alkali that can be procured from various substances, and *in great quantities*;" and that at present it can be procured, at *one* place on the Brandywine, Delaware, for four dollars per hundred pounds. He before observes, "the caustic nature of potash and soda as manure, is so great, that it is necessary to seek out some safe and economical way of applying them, by forming combinations with other substances." Now he does not seem to know—that in the leached ashes, which may be purchased on the wharves of the cities in almost any quantity, is contained the potash and soda, already combined with substances exactly fit for immediate use; and I again remark, these may be obtained in any quantity.

But, all that he has said, is introductory to his plan for "finding employment for regular establishments, and making a new and useful branch of business." Now all this is very well, but much more applicable to those who are seeking for such employment, than for us *Jersey Farmers*, who have more than sufficient to employ us, did we only devote ourselves to our more immediate concerns, and leave to others the making of "agricultural soap!" A person who trades in "salted salmon, herrings, and all kinds of fish," smiled at the idea of cutting off heads and fins for making "agricultural soap," for the sake of saving in the expense of the barrel and cost of transportation. He thought it the most ridiculous idea imaginable, and said, "ask the gentleman to calculate the value of these articles contained in a barrel, *and which now sell for the price of the fish*, and strike the balance in favor of converting them into agricultural soap!"

But the writer seems entirely to have overlooked our inexhaustible beds of marl, which the geologists tell us contain twelve per cent. of potash, combined too with a substance peculiarly adapted to "our warm, open, and in many places sandy soils," giving them tenacity, and adding, or rather *creating* a staple to our sands, which enables them to produce and carry crops, equal to almost any in the union. Our resources for manure limited! Why, they are inexhaustible! and although I do not wish to discourage "the study of the sciences," amongst those for whose use such a study is best calculated, yet I cannot help thinking that a Jersey farmer might be excused, on the score of having something much more necessary to attend to than "to become acquainted with the laws by which nature controls every thing that they do." I beg once more not to be considered as objecting to the "study of the sciences"—that is a subject which merits the attention of men of high attainments in science and philosophy, and who are more likely to do justice to it; I only deprecate the idea, that it is necessary, or even desirable, for the employment of the husbandman, whose daily labor is only sufficient to obtain for his family their daily bread.

I must add, I have known the most egregious follies perpetrated under the sanction of "science," that ever entered the head of mortal, and I consider the proposal contained in the article on page 64 of the Cabinet, the *ne plus ultra*. It is from the Farmer's Register, and the production of a writer on the subject of "Vegetable Physiology." To be sure, he modestly *ventures to propose*,

what he considers the best plan for cultivating potatoes, but they must be physiological potatoes to bear to have "their branches, all but the tops, covered up three times," before they are allowed to go to seed! Now after this, if any one will turn to the 36th page of the Cabinet, and peruse the article "on hilling potatoes," written evidently by a practical man, he will, I think, be capable of forming a correct judgment of the value of a theoretical "study of the elements of science."

A Jersey Farmer.

Rancocus Creek, Sept. 24th, 1839.

For the Farmers' Cabinet.

Agricultural Chemistry.—By Davy.

[Continued from page 21.]

It is a common practice amongst farmers to suffer the farm-yard dung to ferment till the fibrous texture of the vegetable matter is entirely broken down, and till the manure becomes perfectly cold, and so soft as to be easily cut by the spade.

Independent of the general theoretical views unfavorable to this practice, founded upon the nature and composition of vegetable substances, there are many arguments and facts which show that it is prejudicial to the interests of the farmer.

During the violent fermentation which is necessary for reducing farm-yard manure to the state in which it is called short muck, not only a large quantity of fluid, but likewise of gaseous matter, is lost; so much so, that the dung is reduced one half, or two thirds in weight; and the principal elastic matter disengaged is carbonic acid, with some ammonia; and both these, if retained by the moisture in the soil, are capable of becoming an useful nourishment of plants.

In the writings of scientific agriculturists, a great mass of facts may be found in favor of the application of farm-yard dung in a recent state. Mr. Young, in the essays on manures, adduces a number of excellent authorities in support of the plan. Many who doubted have been lately convinced; and perhaps there is no subject of investigation in which there is such a union of theoretical and practical evidence. I have myself within the last ten years witnessed a number of distinct proofs on the subject. I shall content myself with quoting that which ought to have, and which I am sure will have, the greatest weight among agriculturists. Within the last seven years Mr. Coke has entirely given up the system formerly adopted on his farm of applying fermented dung; and he informs me that his crops have been since, as good as they ever were, and that his manure goes nearly twice as far.

In cases where farm yard dung cannot be immediately applied to crops, the destructive fermentation of it should be prevented as much as possible. The surface should be defended as much as possible from the oxygen of the atmosphere; a compact marl, or a tenacious clay, offers the best protection against the air; and before the dung is covered over, or, as it were, sealed up, it should be dried as much as possible. If the dung is found at any time to heat strongly, it should be turned over, and cooled by exposure to air.

When dung is to be preserved for any time, the situation in which it is kept is of importance. It should, if possible, be defended from the sun. To preserve it under sheds would be of great use; or to make the site of a dung-hill on the north side of a wall. The floor on which the dung is heaped, should have an inclination to the centre, and there should be drains connected with a small well, furnished with a pump, by which any fluid matter may be collected for the use of the land. It too often happens that a dense mucilaginous and extractive fluid is suffered to drain away from the dung-hill, so as to be entirely lost to the farm.

In America, plaster of paris, or gypsum, is employed with signal success; but in most counties of England it has failed, though tried in various ways, and upon different crops.

Very discordant notions have been formed as to the mode of operation of gypsum. It has been supposed by some persons to act by its power of attracting moisture from the air; but this agency must be comparatively insignificant. When *combined* with water, it retains that fluid too powerfully to yield it to the roots of the plant, and its adhesive attraction for moisture is inconsiderable; the small quantity in which it is used, likewise is a circumstance hostile to this idea.

It has been said that gypsum assists the putrefaction of animal substances, and the decomposition of manure. I have tried some experiments on this subject, which are contradictory to the notion. I mixed some minced veal with about one-hundredth part of its weight of gypsum, and exposed some veal without gypsum under the same circumstances; there was no difference in the time in which they began to putrefy, and the process was most rapid in the case in which there was no gypsum present. I made other similar mixtures, employing in some cases larger and in some cases smaller quantities of gypsum; and I used pigeon's dung in one instance instead of flesh, and with precisely similar results. It certainly in no case increased the rapidity of putrefaction. The Berkshire and the Wiltshire peat ashes, which are used as a top-dressing for cultivated grasses, particularly sainfoin and clover, contain a considerable portion of gypsum. In the Newberry peat ashes, I have found from one-fourth to

one-third of gypsum; and a larger quantity in some peat ashes, from the neighborhood of Stockbridge. In examining the ashes of sainfoin, clover and rye grass, I found that they afforded considerable quantities of gypsum; and this substance, probably, is intimately combined as a necessary part of this woody fibre. If this be allowed, it is easy to explain the reason why it operates in such small quantities; for the whole of a clover crop, or sainfoin crop, on an acre, according to my estimation, would afford by incineration only three or four bushels of gypsum. The reason why gypsum is not always efficacious, is probably because most cultivated soils contain it insufficient quantities for the use of the grasses.

In the common course of cultivation, gypsum is furnished in the manure; for it is contained in stable dung, and in the dung of all cattle fed on grass; and it is not taken up in grain crops, or crops of peas and beans.—Lord Dundas informs me, that he tried gypsum without any benefit on two of his estates; he was induced to have the soil examined for gypsum, and this substance was found in both the soils.

Should these statements be confirmed by future inquiries, a practical inference of some value may be derived from them.

When common salt acts as a manure, it is probably by entering into the composition of the plant in the same manner as gypsum, phosphate of lime, and the alkalies.

Common salt is offensive to insects.

When water used in irrigation has flowed over a calcareous country, it is generally found impregnated with carbonate of lime; and in this state it tends, in many instances, to meliorate the soil, and, I may add, to counteract the effect of rain-water, to dissolve and remove the carbonate of lime from the soil.—In Malta, where irrigation is much employed, the water containing carbonate of lime, I have found no deficiency of this compound in the soil of the irrigated lands; but in this country, (England) even in chalk districts, the superficial soil is often entirely destitute of carbonate of lime; it has been removed in process of time, supposing that it previously existed in the soil, by the *solvent* power of *rain-water.*

Land, when it is not employed in preparing food for animals, should be applied to the purpose of the preparation of manure for plants; and this is effected by means of green crops, in consequence of the absorption of carbonaceous matter in the carbonic acid of the atmosphere. In a summer's fallow a period is always lost in which vegetables may be raised, either as food for animals, or as nourishment for the next crop; and the texture of the soil is not so much improved by its exposure, as in winter, when the expansive powers of ice, the gradual dissolution of snows, and the alterations from wet to dry, tend to pulverize it and to mix its different parts together.

Communicated for the Farmers' Cabinet.

Extract from the Courier Agricole, Paris, 1839.

The Chestnut grafted on the Oak.

M. Gabriel Simons, nurseryman at Metz, is said to have succeeded in *grafting a chestnut on the oak*, and M. d'Hombre Firmas, member of the Academy of Gard, has published in the Bulletin, of the Agr. Society of Nimes, that he, some years since, successfully grafted the chestnut on the cork oak tree, and that his maternal great-grand-mother, more than one hundred years since, had a number of oak trees grafted with different kinds of chestnuts, in her property of Sauvage. Three of these oaks still exist, which he shows to visitors, and it is a remarkable circumstance that having been grafted high up, their upper branches yield chestnuts of the kind called Pe'te'grines, whilst the body of the tree below throws out oaken branches.

N. B. The *Courier Agricole*, is published in numbers, monthly, at Paris, under that title, with the addition: "Journal d'Annouces—Agricole Horticoles—and d'economice Rural." Three francs for twelve numbers of eight pages each. Address, post-paid, A Mons. *Cason*, Director of the Courier, Rue Taranne, No. 12, Paris.

Berkshire Pigs.—An Inquiry.

To the Editor of the Farmers' Cabinet.

Mr. Editor,—If information can be had through the medium of the Farmers' Cabinet, where Berkshire pigs can be bought, and at what price, with an account of their character, as to the best age for fattening them—what they are susceptible of weighing at various ages—when full grown, &c., no doubt but it will confer a favor upon many of the readers of your very valuable paper, and particularly upon myself, as I should like to purchase a male pig of that breed; being fully convinced, both from experience and observation, that there is double the profit in rearing pigs of a good breed, than there is in rearing those of an inferior breed,—also believing, from the various accounts I have seen in several agricultural papers, that the Berkshire is preferable to any other breed of pigs. A Subscriber.

Frederica, Kent co., Del., June 6, 1839.

The above note, bearing date June 6, 1839, did not reach the hands of the Editor until after the Cabinet for September had been put to press. The delay is to be regretted;—but we nevertheless hope, that any gentleman or gentlemen possessing the information sought for, will avail themselves of the earliest opportunity of communicating it to the public through the medium of the Cabinet. Our highly esteemed and worthy fellow citizen, J. C. Wolbert, Esq., has lately added, by importation, to his already valuable stock—several Berkshires of pure blood. We have not seen them, but learn that they are very superior animals. We presume that Mr. Wolbert will, if he has not at present soon have pigs of the pure Berkshire breed to dispose of.

No food, no cattle—no cattle, no dung—no dung, no grain, is a maxim that ought to be firmly fixed in every farmer's mind.

Quantity of rain which has fallen in each month since January 1, 1839. Inches.

1st month,	5.03
2d month,	3.42
3d month,	1.50
4th month,	1.50
5th month,	6.07
6th month,	3.92
7th month,	2.51
8th month,	4.64*
9th month,	2.92

* It rained on seventeen different days.

Philadelphia Hospital, 10th mo., 1st, 1839.

State of the Market—Oct. 7, 1839.

FLOUR.—The flour market has become quite animated—Pennsylvania and Brandywine $5 @ $5.50 per barrel; Baltimore and Ohio, $5.25 @ $5.36; middlings $4.50.—*Rye*, $4.75.—Corn Meal, $3.75.

GRAIN—Is scarce, holders keep back.—*Wheat*, Penn. and Ohio, $1.08 @ $1.13 per bushel; Southern $1.07 @ $1.12.—*Rye*, 70 @ 71.—*Corn*, 70 @ 73.—*Oats*, 31 @ 33. *Peas*, $1.75 @ $2. White Beans $1.50.

PROVISIONS.—No essential change;—operations limited.

PLASTER.—Sales at $3.75 per ton.

WOOL.—The market has undergone no further variations in prices, and the operations noted during the last three weeks have considerably reduced the stocks, which were only moderate.

CATTLE MARKET.—The supplies brought forward consisted of 600 beeves, 220 *Cows* and *Calves*, 550 Swine, and 2,000 Sheep. *Beef Cattle*—sales of 550 head at from $7 @ $8.75 per 100 lbs. for common to good quality. Cows were dull at $25 to $35 per head, and 50 were left over; Calves sold at $5.75 @ $6 per 100 lbs. *Swine*—Sales of 420 head at $7.25 @ $8.50, and extra $8.75 per 100 lbs. *Sheep*—Sales to a fair extent at $1.25 @ $2.50 for lambs, and $2.50 to $4.50 for sheep, according to quality.

Citron Pumpkin.—Our friend, David Comfort, Esq., of Byberry, has left at this office, for the examination of all interested in such matters, a *Citron Pumpkin*, or *Vulparaiso Squash*, weighing *eighty-four pounds!*—Friend Comfort and Byberry have certainly taken the lead this season.

☞ Several interesting communications on hand will be disposed of as soon as possible.

J. D. Emes's Patent Cast Iron Threshing Machine.

An establishment for the manufacture of the above machines, will be put into operation in this city, of which due notice will be given. They are now constructed by Stevens & Hutchinson, at the Mechanics' and Farmers' Depository, Boston, Massachusetts.

J. D. Emes's Patent Cast Iron Threshing Machine, without any disparagement to other valuable improvements, warranted equal, if not superior, to the best in any country, for threshing all kinds of small grain, rice and small seeds, from wheat to herdgrass seeds.

This machine is less than three feet square, strong, simple and plain, and not liable to get out of order. One quarter the expense of flail strings will keep it in repair to thresh the same number of bushels.

To thresh one hundred bushels with this machine is considered a day's work; it will, however, do as much more, as the feeder can handle straw to make; and always at a saving of at least ten per cent. in extra grain, above that threshed by flail, or any other ordinary method ever yet introduced.

If durability, expedition, convenience, economy and profit, be an object, then this truly valuable and useful machine will commend itself, above all others, to the use of every grain raising farmer; being warranted in every respect.

Southern Rice growers are respectfully requested to examine the machine as a superior article for threshing Rice. An interest in the patent can be obtained on reasonable terms.

CURTIS BRUCE and HUDSON BURR have become interested with the patentee, in the States of Pennsylvania, New Jersey, and Delaware. Any person wishing to see the above machine, or become interested in it, will receive all necessary information by calling on the subscribers, at Burr's Hotel, No. 2 South Wharves, lower side of Market street, Philadelphia.

J. D. EMES,
CURTIS BRUCE,
HUDSON BURR.

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